

L6 ANSWER 1 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2001:157211 CAPLUS
TITLE: Modeling the reaction behavior of glycerol in sub- and super-critical water
AUTHOR(S): Anon.
CORPORATE SOURCE: Germany
SOURCE: Wiss. Ber. - Forschungszent. Karlsruhe (2000), FZKA
6553, 1-187
CODEN: WBFKF5; ISSN: 0947-8620

DOCUMENT TYPE: Report
LANGUAGE: German

AB The intention of this thesis was to develop a reaction model to describe the reaction dynamics of glycerol in sub- and supercrit. water ($T > 374\text{.degree.}$, $p > 221$ bar). The model aimed at improving the understanding of the competition of ionic and radical reactions in this solvent. The model is based on the results of 66 expts. performed in a tube reactor. The reactions were carried out at variable temp. (622-748 K), pressure (250, 350 and 450 bar), reaction time μ (32-60 s.), and initial glycerol concn. (1-3 vol. %). The product samples consisted of a liq. and a gaseous phase. A special methodol. for the anal. of each phase had to be worked out. The liq. products were analyzed by headspace-GC-FID and UV-VIS spectroscopy, the gaseous products by GC-WLD-FID. In subcrit. water (622.4 K, 450 bar), mainly the formation of acetaldehyde, acrolein, and formaldehyde could be obsd., whereas the formation of gaseous products was negligible. Due to the occurrence of a small no. of products only, a high dielec. const. ($\epsilon = 17$) as well as the high values for the ionic product of water ($K_w = 10^{-11.2}$ mol²/I²), it was strongly justified to assume a certain ionic reaction mechanism. In supercrit. water, on the other hand, the formation of oxidn. and redn. products as a result of reactions with OH and H radicals was obsd. The following main products were detected as part of the liq. phase: acetaldehyde, acrolein, H₂CO, MeOH, allyl alc., propionaldehyde, EtOH, and finally Me₂CO. Within the gaseous phase large amts. of CO, CO₂, and H₂ could be measured. The model calcns. of the reactant and product dynamics were executed by the Chemkin II code on the basis of defined ionic and radical reaction steps. A plug flow behavior under isothermal and isobaric conditions was assumed for the calcns. Due to the lack of well-known reactions in high-temp. water, both the chem. and the kinetic parameters, esp. for the ionic reactions, were often highly speculative. Radical reaction steps were based on the classical steps of pyrolysis, whereas the ionic reactions mainly considered bimol. and monomol. elimination as well as aldol condensation and acetalization. The concn. of H⁺ and OH⁻ was controlled by the self-dissocn. of water. The dynamics of reactions and products was optimized stepwise for a pressure of 450 bar. By the results of flow and sensitivity calcns., a specific variation of the approximated kinetic parameters became possible. These calcns. gave an addnl. hint as to the missing key reactions. In consideration of concerted reaction steps the no. of key reactions was substantially reduced and the optimization process simplified. O-contg. substances were stabilized by a H-bonding correction. At the end of the optimization process the reaction model consisted of 95 substances, 340 radical and 43 ionic reactions. But only 36 radical and 12 ionic reactions were detected as sensitive key reactions. Exptl. and calcd. data differed at lower pressures (250 and 350 bar) as a result of the cage effect. Accordingly, reactions were accelerated with decreasing pressure and a transition from the diffusion controlled reaction to the kinetically controlled reaction was possible. The order n of the global reaction

velocity was detd. by $n = 0.95-1.25$. A definite dependence neither on pressure nor on temp. was found. The diagram of Arrhenius showed an overlay of the 2 mechanisms. Whereas the free radical mechanism depended mainly on the temp., the ionic mechanism was detd. by the ionic product of water. An activation energy of 150.3 kJ/mol and a pre-exponential factor of 10^{18} s^{-1} could be evaluated. Furthermore, a decline in temp. from 664 K (450 bar) to 622 K (450 bar) was followed by an obvious increase of the global reaction velocity. The pressure rise accelerated the reaction velocity at a temp. of 665-668 K. Between 250-350 bar an activation vol. of $-167 \text{ cm}^3/\text{mol}$ was estd. Due to the mechanism overlay, the diagram of Kirkwood ($\epsilon_{\text{epsilon}} = 2.7-12.3$) also did not show any linear dependency. The global reaction velocity increased with the dielec. const. of the solvent because the transition states had a higher polarity than the reactants. The strongest increase could be obsd. in the area of the ionic mechanism. Although the model calcns. were conducted on the basis of many assumptions, the results led to a good description of the chem. expts. and, therefore, contributed essentially to the understanding of such a complex reaction system in high-pressure water.

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L6 ANSWER 2 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 2001:94654 CAPLUS
 TITLE: Polymer electrolytes derived from polynorbornenes with pendent cyclophosphazenes: poly(ethylene glycol) methyl ether (PEGME) derivatives
 AUTHOR(S): Allcock, Harry R.; Laredo, Walter R.; Morford, Robert V.
 CORPORATE SOURCE: Department of Chemistry, The Pennsylvania State University, University Park, PA, 16802, USA
 SOURCE: Solid State Ionics (2001), 139(1,2), 27-36
 CODEN: SSIOD3; ISSN: 0167-2738
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB An elastomeric polymer electrolyte was developed by the linkage of poly(ethylene glycol) Me ether (PEGME) side chains and norbornene-based units to a cyclotriphosphazene ring, followed by polymn. of the norbornene units by ring-opening metathesis polymn. (ROMP). This yielded an org. polymer backbone with ion co-ordinative cyclic phosphazene side groups. Adjustment of the norbornene content in the starting monomer allowed the degree of branching and crosslinking to be controlled and, in turn, the mech. properties of the material to be tuned. The polymers were complexed with fixed molar ratio of $\text{LiN}(\text{SO}_2\text{CF}_3)_2$ and LiSO_3CF_3 and examd. as solid polymer electrolytes. Polymer gel electrolytes were then formulated by the addn. of variable amts. of propylene carbonate to the polynorbornenes. Films of solvent-free and solvent-contg. polymers were homogeneous, flexible, and self-standing materials. The ionic cond. of the solvent-free polymers is 4

09/514.023

.times. 10-5 S/cm at 30.degree. in the presence of 40 mol% of LiSO₃CF₃ or LiN(SO₂CF₃)₂. The cond. of the solvent-contg. (gel) systems increased with increases in propylene carbonate content to 2 .times. 10-3 S/cm at 30.degree. in the presence of 50% propylene carbonate and LiN(SO₂CF₃)₂ at a const. 0:Li⁺ ratio of 8:1. Even with this high concn. of propylene carbonate, the electrolyte was a solid elastomer rather than a viscous liq. In general, the cond. is twice as high with the use of LiN(SO₂CF₃)₂ compared to LiSO₃CF₃. The T_g of the polymer electrolytes was detd. by DSC; it decreased with increasing amts. of propylene carbonate in the system.

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L6 ANSWER 3 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:876019 CAPLUS

DOCUMENT NUMBER: 134:193157

TITLE: Electrophilic nitration of aromatics in ionic liquid solvents

AUTHOR(S): Laali, Kenneth K.; Gettwert, Volker J.

CORPORATE SOURCE: Department of Chemistry, Kent State University, Kent, OH, 44242, USA

SOURCE: J. Org. Chem. (2001), 66(1), 35-40

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Ionic liqs., including 1-ethyl-3-methylimidazolium salts [emim][X] (X = OTf-, CF₃COO-, NO₃-) and [HNET(CHMe₂)₂][CF₃COO] (protonated Hunig's base), were used as solvents for electrophilic nitration of aroms. with a variety of nitrating systems, namely NH₄NO₃/TFAA, isoamyl nitrate/BF₃.cntdot.Et₂O, isoamyl nitrate/TfOH, Cu(NO₃)/TFAA, and AgNO₃/Tf₂O. Among these, NH₄NO₃/TFAA [with [emim][CF₃COO], [emim][NO₃]], isoamyl nitrate/BF₃.cntdot.Et₂O, and isoamyl nitrate/TfOH [with [emim][OTf]] provided the best overall systems both in terms of nitration efficiency and recycling/reuse of the ionic liqs. For [NO₂][BF₄] nitration, the commonly used ionic liqs. [emim][AlCl₄] and [emim][Al₂Cl₇] are unsuitable, as counterion exchange and arene nitration compete. The [Emim][BF₄] ionic solvent is ring nitrated with [NO₂][BF₄] producing [NO₂-emim][BF₄] salt, which is of limited utility due to its increased viscosity. Nitration in ionic liqs. was surveyed using a host of arom. substrates with varied reactivities and the preparative scope of the ionic liqs. was extended. Counterion dependency of the NMR spectra of the [emim][X] liqs. was used to gauge counterion exchange (metathesis) during nitration. Ionic liq. nitration is a useful alternative to classical nitration routes due to easier product isolation and recovery of the ionic liq. solvent, and because it avoids problems assocd. with neutralization of large quantities of strong acid.

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ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:795796 CAPLUS
TITLE: Polycationic liquid salts.
AUTHOR(S): Lall, Sharon; Shteto, Valbona; Castro, Steve; Han,
Jung-ah; Horowitz, Farrah; Cohen, JaimeLee Iolani;
Engel, Robert
CORPORATE SOURCE: Department of Chemistry and Biochemistry, Queens
College, Flushing, NY, 11367, USA
SOURCE: Abstr. Pap. - Am. Chem. Soc. (2000), 220th, INOR-350
CODEN: ACSRAL; ISSN: 0065-7727
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; Meeting Abstract
LANGUAGE: English

AB Recent efforts of our lab. have centered about the synthesis of polycationic org. salts and the investigation of their chem./phys. characteristics. In the current report we are concerned with the generation of ionic liqs. from these (solid) polycationic salts and the investigation of their characteristics with regard to elec. conduction, and their capability to serve as media for the differential solubilization of solutes and the performance of chem. reactions. Syntheses of the polyammonium ionic liqs. has been accomplished by metathesis reaction of the initial halide salts with hexafluorophosphoric acid to generate the species (liq.) as the hexafluorophosphate salts. Particular emphasis has been given to the cyclic polycationic species, including paracyclophane and, metacyclophanes contg. either two or four ammonium ion sites within the major ring, and cyclodextrin derivs. contg. two quaternary ammonium sites for each amylose unit of the parent mol. Cond. characteristics of the pure non-aq. ionic liqs. (NAILs) have been measured using a std. cond. bridge, and variation of the cond. with temp. has been noted.

L6 ANSWER 5 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:712179 CAPLUS
DOCUMENT NUMBER: 134:116251
TITLE: Ionic liquids as new-generation reactive
solvents
AUTHOR(S): Nowicki, Janusz
CORPORATE SOURCE: Inst. Ciezkiej Syntezy Org., Kedzierzyn-Kozle, Pol.
SOURCE: Chemik (2000), 53(8), 223-226
CODEN: CHGLAY; ISSN: 0009-2886
PUBLISHER: Zaklad Wydawniczy CHEMPRESS
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Polish
AB A review with 38 refs. on room-temp. ionic liqs. as new-generation ("neoteric") org.-inorg. solvents is given. The current state of research and development of their utilization in org. synthesis is presented.

L6 ANSWER 6 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:645656 CAPLUS
DOCUMENT NUMBER: 133:237853
TITLE: Olefin metathesis in the presence of

09/514,023

INVENTOR(S): Gurtler, Christoph; Jautelat, Manfred
PATENT ASSIGNEE(S): Bayer A.-G., Germany
SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1035093	A2	20000913	EP 2000-103339	20000221
EP 1035093	A3	20010124		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19909600	A1	20000907	DE 1999-19909600	19990305
DE 19927912	A1	20001221	DE 1999-19927912	19990618
PRIORITY APPLN. INFO.:			DE 1999-19909600 A	19990305
			DE 1999-19927912 A	19990618

OTHER SOURCE(S): CASREACT 133:237853; MARPAT 133:237853

AB Cyclic and/or polymeric materials were prep'd. by metathesis of starting materials contg. .gtoreq.2 functional groups in the form of (substituted) alkenes or alkynes in the presence of ionic liqs. and .gtoreq.1 homogeneous or heterogeneous catalyst. The catalyst may be a transition metal carbene or transition metal compd. convertible thereto, or a transition metal salt in combination with an alkylating agent. Thus, MeO₂CN(CH₂CH:CH₂)₂, tricyclohexylphosphinebenzylidenechlororuthenium(IV)-2-[2,6-diisopropylphenyl]imino]methyl-4-nitrophenolate were stirred in a hexane-covered mixt. of 1-methyl-3-ethylimidazolium chloride and AlCl₃ to give 30% N-methoxycarbonyl-2,5-dihydropyrrole.

L6 ANSWER 7 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:559914 CAPLUS
DOCUMENT NUMBER: 133:281895
TITLE: Ionic Phosphine Ligands with Cobaltocenium Backbone: Novel Ligands for the Highly Selective, Biphasic, Rhodium-Catalyzed Hydroformylation of 1-Octene in Ionic Liquids
AUTHOR(S): Brasse, Claudia C.; Englert, Ulli; Salzer, Albrecht; Waffenschmidt, Horst; Wasserscheid, Peter
CORPORATE SOURCE: Institut fuer Anorganische Chemie, RWTH Aachen, Aachen, D 52056, Germany
SOURCE: Organometallics (2000), 19(19), 3818-3823
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:281895
AB The use of electron-poor phosphine-substituted cobaltocenium salts as ligands for the biphasic hydroformylation in ionic liqs. was studied. Using improved oxidn. methods, 1,1'-bis(diphenylphosphino)cobaltocenium nitrate (1), 1,1'-bis(diphenylphosphino)cobaltocenium hexafluorophosphate, and 1,1'-bis[1-methyl(1-diphenylphosphino)ethyl]cobaltocenium hexafluorophosphate were synthesized. 1,1'-Bis(diphenylphosphino)cobaltocenium hexafluorophosphate in particular proved to be a very suitable

09/514,023

ligand for the biphasic hydroformylation of 1-octene in 1-butyl-3-methylimidazolium hexafluorophosphate (BMIM PF₆), enabling high catalyst activity, high selectivity to the n-product, and no detectable catalyst leaching. In contrast to aq. biphasic systems, the ionic liq. BMIM PF₆ provides for the Rh catalyst a low-coordinating medium with limited but sufficient solv. for 1-octene to allow high reaction rates. The crystal and mol. structures of 1 were detd. by x-ray crystallog.

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REFERENCE(S):
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:45908 CAPLUS
DOCUMENT NUMBER: 132:166332
TITLE: Metal-Alkyl Bond Protonolysis Studies of (dfepe)Pt(Me)X Complexes in Acidic Media
AUTHOR(S): Bennett, Byron L.; Hoerter, Justin M.; Houlis, James F.; Roddick, Dean M.
CORPORATE SOURCE: Department of Chemistry, University of Wyoming, Laramie, WY, 82071, USA
SOURCE: Organometallics (2000), 19(4), 615-621
CODEN: ORGND7; ISSN: 0276-7333
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Protonolyses of (dfepe)Pt(Me)X (dfepe = (C₂F₅)₂PCH₂CH₂P(C₂F₅)₂; X = O₂CCF₃, OSO₂H, OSO₂CF₃, OSO₂F) complexes in their resp. neat acid solns. cleanly yield (dfepe)Pt(X)₂ products with rates dependent on relative acid strengths. No (dfepe)Pt(Me)(X)₂(H)⁺ intermediates were obsd. by variable-temp. NMR in CH₂Cl₂. The (perfluoroaryl)phosphine analog (dfppe)Pt(Me)₂ (dfppe = (C₆F₅)₂PCH₂CH₂P(C₆F₅)₂) is much less resistant to protonolysis and rapidly converts to (dfppe)Pt(OTf)₂ in HOTf at 20.degree.. Kinetic studies for protonolysis in CF₃CO₂H(D) and CF₃SO₃H(D) solvents were carried out. Examn. of ionic strength and chloride anion effects in H₀2CCF₃ indicate that prior assocn. of anion to (dfepe)Pt(Me)X systems is not kinetically important. kH/kD values were obtained from competitive protonolysis studies (CF₃CO₂H, 9 .+-. 2 (20.degree.); H₂SO₄, 7 .+-. 2 (100.degree.); CF₃SO₃H, 2.7 .+-. 0.7 (100.degree.)). In the case of CF₃CO₂H, sep. kinetic runs in protio and deuterio acids gave a lower kH/kD value of 3.6(4). The data obtained in these studies do not differentiate between limiting SE₂ and SE(oxidative) protonolysis mechanisms.

REFERENCE COUNT: 46
REFERENCE(S):
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L6 ANSWER 9 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:13165 CAPLUS
 DOCUMENT NUMBER: 132:194436
 TITLE: Carbon versus Silicon Bridges. Synthesis of a New
 Versatile Ligand and Its Applications in
 Organolanthanide Chemistry
 AUTHOR(S): Wang, Shaowu; Yang, Qingchuan; Mak, Thomas C. W.; Xie,
 Zuowei
 CORPORATE SOURCE: Department of Chemistry, The Chinese University of
 Hong Kong, Shatin Hong Kong, Peop. Rep. China
 SOURCE: Organometallics (2000), 19(3), 334-343
 CODEN: ORGND7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A new C-bridged versatile ligand Me₂C(C₉H₇)(C₂B₁₀H₁₁) (1;
 1-(1-(1H-inden-3-yl)-1-methylethyl)-1,2-dicarbadodecaborane) was designed
 and successfully prep'd. by treatment of Li₂C₂B₁₀H₁₀ with 1 equiv of
 6,6-dimethylbenzofulvene followed by hydrolysis with a satd. NH₄Cl aq.
 soln. 1 Can be conveniently converted into the monoanion
 [Me₂C(C₉H₆)(C₂B₁₀H₁₁)]Li (2) and the dianion [Me₂C(C₉H₆)(C₂B₁₀H₁₀)]Li₂ (3)
 by treatment with 1 or 2 equiv of BuLi, resp. Both NaNH₂ and NaH can only
 convert 1 into the monoanion, but cannot deprotonate the CH proton of the
 carborane cage in 1. These results differ significantly from those of a
 closely related analog, Me₂Si(C₉H₇)(C₂B₁₀H₁₁). Treatment of SmI₂ with 1
 equiv of 3, followed by reaction with 1 equiv of 2, gave the redox product
 rac-[Li(DME)2][{.eta.5:.sigma.-Me₂C(C₉H₆)(C₂B₁₀H₁₀)}2Sm] (4). 4 Can also
 be prep'd. by reaction of SmI₂ with 1 equiv of 3 in a relatively lower
 yield. These two reactions may undergo different pathways, an intramol.
 electron-transfer pathway for the former and an intermol.
 electron-transfer pathway for the latter. The latter reaction can be
 accelerated by addn. of CS₂ or PhC.tpbond.CPh, which gave
 rac-[Li(THF)4][{.eta.5:.sigma.-Me₂C(C₉H₆)(C₂B₁₀H₁₀)}2Sm] (5). Unlike the
 SmI₂ case, an equimolar reaction between 3 and YbI₂ afforded the Yb(II)
 compd. [.eta.5:.sigma.-Me₂C(C₉H₆)(C₂B₁₀H₁₀)]Yb(DME)2 (6). 6 Can react
 with 1 equiv of 2 to generate a C-H bond redn. product,
 rac-[Li(DME)3][{.eta.5:.sigma.-Me₂C(C₉H₆)(C₂B₁₀H₁₀)}2Yb].cntdot.C6H5CH₃
 (7). Reaction of LnCl₃ with 1 or 2 equiv of 2 yielded organolanthanide
 dichloride and monochloride compds., resp., [.eta.5-
 Me₂C(C₉H₆)(C₂B₁₀H₁₁)]GdCl₂(THF)2 (15) and [.eta.5-
 Me₂C(C₉H₆)(C₂B₁₀H₁₁)]2LnCl(THF)(OEt₂) (Ln = Y (8), Yb (9)). Treatment of
 9 with 1 or 2 equiv of MeLi gave deprotonation products
 rac-[{.eta.5:.sigma.-Me₂C(C₉H₆)(C₂B₁₀H₁₀)}.eta.5-
 Me₂C(C₉H₆)(C₂B₁₀H₁₁)]Yb(.mu.-Cl)Li(DME)2 (10) and rac-
 [Li(DME)2][{.eta.5:.sigma.-Me₂C(C₉H₆)(C₂B₁₀H₁₀)}2Yb] (11), resp. Reaction
 of LnCl₃ with 2 equiv of 3 also afforded ionic compds.
 rac-[Li(DME)2][{.eta.5:.sigma.-Me₂C(C₉H₆)(C₂B₁₀H₁₀)}2Ln] (Ln = Yb (11), Nd
 (12), Er (13)). Recrystn. of 7 from a mixed solvent of
 toluene/DME (10:1) gave meso-[Li(DME)3][{.eta.5:.sigma.-
 Me₂C(C₉H₆)(C₂B₁₀H₁₀)}2Yb].cntdot.2C6H5CH₃ (14). All of these compds. were
 fully characterized by various spectroscopic and elemental analyses. The
 mol. structures of 4-7, 11, 12, and 14 were confirmed by single-crystal
 x-ray analyses. The structural analyses reveal that the anions in 7 (or
 11) and 14 are one pair of diastereomers.
 REFERENCE COUNT: 76
 REFERENCE(S): (1) Bochmann, M; J Chem Soc, Dalton Trans 1996, P255
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L6 ANSWER 10 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 2000:4405 CAPLUS
 DOCUMENT NUMBER: 132:276015
 TITLE: The effect of antihistamine, endothelin antagonist and corticosteroid prophylaxis on contrast media induced bronchospasm
 AUTHOR(S): Laude, E. A.; Emery, C. J.; Suvarna, S. K.; Morcos, S. K.
 CORPORATE SOURCE: Department of Respiratory Medicine, Clinical Science Division, Sheffield University Medical School, Sheffield, S5 7AU, UK
 SOURCE: Br. J. Radiol. (1999), 72(Nov.), 1058-1063
 CODEN: BJRAAP; ISSN: 0007-1285
 PUBLISHER: British Institute of Radiology
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Bronchospasm is a well recognized adverse reaction to radiog. contrast media (RCM) and may occur more frequently in asthmatics and atopics. This study was designed to identify RCM which are most likely to cause bronchospasm and to investigate underlying mechanisms mediating this response. Guinea pigs (mean body wt. 550 g, n=46) were anesthetized with Hypnorm (5 mL kg⁻¹) and Hypnovel (2 mL kg⁻¹) and tracheal, jugular and pleural cannulae introduced. Total airways resistance (Raw) was calcd. from the slope of the pressure/flow relationship. The effects of RCM (diatrizoate 370 mgI ml⁻¹, ioxaglate 320 mgI ml⁻¹, iotrolan 300 mgI ml⁻¹ and iopromide 300 mgI ml⁻¹) at a dose of 4 mL kg⁻¹ body wt. or control solns. matched for vol., pH and osmolarity administered via the jugular vein on Raw were studied. The effects of pre-treatment (30 min before the administration of RCM) with antihistamine (Mepyramine (30 mg kg⁻¹i.p.)) or non-selective endothelin receptor antagonist (SB209670 (1 mg kg⁻¹i.v.)) were investigated. The effectiveness of corticosteroids prophylaxis (prednisolone (20 mg kg⁻¹i.p.)) administered 18-24 h and 1 h pre-RCM was also assessed. Control animals received normal saline pre-treatment before RCM administration. Lungs were taken for histol. examn. 30-40 min post-administration of RCM. Only ioxaglate caused a significant ($p<0.05$) increase in Raw (5.19.+-.0.58 to 13.95.+-.3.53 mmHg ml⁻¹ min⁻¹). Neither mannitol nor saline control solns. had any effect on Raw. Pre-treatment with Mepyramine, SB209670 or prednisolone caused no significant change in the ioxaglate-induced increase in Raw. Histol. examn. of lung tissue from ioxaglate treated animals showed no important abnormalities. In summary, only the ionic dimer ioxaglate caused an increase in Raw. This effect was independent of osmolarity and could be the result of the chem. compn. of the contrast agent. It was not an inflammatory response and could not be prevented by prophylactic treatment with antihistamine, endothelin antagonist or corticosteroids. The mechanisms responsible for the increase in Raw remain uncertain.

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ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:797564 CAPLUS
DOCUMENT NUMBER: 132:280797
TITLE: Phosphine derivatives in catalysis
AUTHOR(S): Bradaric-Baus, C. J.; Chernishenko, M. J.; Robertson, A. J.
CORPORATE SOURCE: Cytec Canada Inc., Niagara Falls, ON, L2E 6T4, Can.
SOURCE: Chim. Oggi (1999), 17(10), 65-69
CODEN: CHOGDS; ISSN: 0392-839X
PUBLISHER: TeknoScienze
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 44 refs. Today, there are many mono and bidentate alkylphosphine ligands available which complement existing arylphosphines and which support important industrial processes such as hydroformylation, hydrogenation, and olefin metathesis. One or more of the alkyl groups can also be functionalized to render the ligands water sol. Derived from tertiary alkylphosphines are families of quaternary phosphonium salts. The major application of phosphonium salts is in the area of phase transfer catalysis. While on a unit basis, phosphonium salts may be more costly than the corresponding ammonium salts, large vol. prodn. as well as their inherent thermal and chem. resistance to Hoffman elimination make phosphonium salts very competitive and, in many cases, more economical to use. A special class of phosphonium salts is the low melting or liq. salts, which have potential as "ionic liqs.". Again, because of good thermal and chem. stability, liq. phosphonium salts are ideally suited for this application. Addnl., phosphonium salts can be readily tailored to suit a process by varying the alkyl groups.

REFERENCE COUNT: 52
REFERENCE(S): (4) Boon, J; J Org Chem 1986, V51, P480 CAPLUS
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:447999 CAPLUS
DOCUMENT NUMBER: 131:252865
TITLE: Renal hemodynamics in radiocontrast medium -induced renal dysfunction: a role for dopamine-1 receptors
AUTHOR(S): Bakris, George L.; Lass, Nancy A.; Glock, Dana
CORPORATE SOURCE: Department of Preventive Medicine, Rush
Presbyterian-St. Luke's Medical Center, Rush
University Hypertension Center, Chicago, IL, USA
SOURCE: Kidney Int. (1999), 56(1), 206-210
CODEN: KDYIA5; ISSN: 0085-2538
PUBLISHER: Blackwell Science, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Radiocontrast medium (RCM) administration induces a

transient increase in renal blood flow (RBF), followed by a prolonged vasoconstriction. This vasoconstrictor phase in RBF is accompanied by a decrement in glomerular filtration rate (GFR). Nonselective dopamine (DA) receptor stimulation is known to increase RBF and GFR. Clin. studies, however, fail to demonstrate a renoprotective effect of DA following RCM administration. This lack of renoprotection may relate to nonspecific adrenergic stimulation by DA. The effect of select DA-1 receptor stimulation on renal hemodynamics following RCM administration has not been evaluated. This study tests the hypothesis that selective DA-1 receptor stimulation blunts the declines in RBF and GFR that follow RCM injections, independent of changes in baseline RBF and GFR. Expts. were performed in six anesthetized, vol.-depleted dogs. RBF was measured by an electromagnetic flow probe around the renal artery and GFR by inulin clearance. After a 60-min equilibration period, baseline values of RBF, GFR, and arterial pressure were detd. Two sep. intrarenal bolus injections of the ionic RCM Renograffin were then given in the presence of saline infusion. After a 60-min recovery period, intra-arterial infusions of either the selective DA-1 receptor agonist fenoldopam or the selective DA-1 receptor antagonist Schering 23390 were started in random order, and expts. were repeated. Neither agent significantly altered baseline values of arterial pressure, RBF, or GFR rate. Fenoldopam prevented redns. in GFR. Conversely, GFR was further reduced in the presence of Schering 23390. Similarly, the maximal redn. in RBF was blunted with fenoldopam, whereas Schering 23390 potentiated maximal RBF redns. following the RCM injection. The duration of recovery from vasoconstriction was also prolonged in the presence of Schering 23390. The authors conclude that selective DA-1 receptor stimulation protects against RCM -mediated decrements in renal hemodynamics, independent of changes in baseline GFR and RBF. Clin. trials are required to examine whether selective DA-1 receptor stimulation may have a role in prophylaxis against nephropathy development in high-risk patients undergoing procedures that require RCM.

REFERENCE COUNT:
REFERENCE(S):

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 (2) Arend, L; J Lab Clin Med 1987, V110, P406 CAPLUS
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 (7) Benigni, A; Nephrol Dial Transplant 1998, V13, P5 CAPLUS
 (8) Caldicott, W; Invest Radiol 1970, V5, P539 CAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1999:272150 CAPLUS
 DOCUMENT NUMBER: 130:310617
 TITLE: Randomized study comparing a non-ionic with
 an ionic contrast medium in
 patients with malignancies. First answer with a new
 diagnostic approach
 AUTHOR(S): Celik, I.; Hoppe, M.; Lorenz, W.; Sitter, H.; Ishaque,
 N.; Jungraithmayr, W.; Kapp, B.; Schmiedel, E.; Klose,
 K. J.
 CORPORATE SOURCE: Inst. Theoretical Surgery, Philipps Univ., Marburg,
 D-35033, Germany
 SOURCE: Inflammation Res. (1999), 48(Suppl. 1), S47-S48
 CODEN: INREFB; ISSN: 1023-3830
 PUBLISHER: Birkhaeuser Verlag

09/514,023

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The incidence of anaphylactoid reactions following application of radio contrast media (RCM) was investigated in patients with malignant tumors. Patients received either non-ionic, low osmolar (iopamidol, group 1) or ionic, high osmolar (ioxithalamate, group 2) RCM i.v. 100 mL at 3 mL/s. The incidence of reactions and of histamine-assocd. reactions in both groups were 92-95% and 42-58%, resp. The increases in blood plasma histamine concns. in both groups were 0.15-0.43 ng/mL (median). Causality with histamine release was established by classification of histamine-related reactions with the Likelihood ratio method and Bayes' Theorem. The highest pos. LR-value was found for SaO₂ satn. [LR = 4 (group 1) and 5 (group 2)]. Pos. LR's were obtained for tachycardia and hypotension, but not for classical signs of anaphylactoid reactions.

REFERENCE COUNT: 7

- REFERENCE(S):
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 - (3) Feuerbach, S; Fortschr Rontgenstr 1996, V164, P158 MEDLINE
 - (4) Katayama, H; Radiology 1990, V175, P621 MEDLINE
 - (6) Lorenz, W; Lancet 1994, V343, P933 MEDLINE
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 14 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1999:188346 CAPLUS

DOCUMENT NUMBER: 130:325457

TITLE: Synthesis of polymers with a controlled molecular weight via ring-opening metathesis

AUTHOR(S): polymerization (ROMP) with a ruthenium-based catalyst Glander, Stephan C.; Frenzel, Ulrich; Nykken, Oskar;

CORPORATE SOURCE: Schattenmann, Wolfgang C.; Herrmann, Wolfgang A. Lehrstuhl fur Makromolekulare Stoffe, Technische

SOURCE: Universitat Munchen, Garching, D-85747, Germany Des. Monomers Polym. (1999), 2(1), 69-77

PUBLISHER: CODEN: DMPOF3; ISSN: 1385-772X

DOCUMENT TYPE: VSP BV

LANGUAGE: Journal

English

AB Various bisallylic ruthenium(IV) complexes in combination with certain diazoalkanes show high catalytic activities in the ring-opening metathesis polymn. (ROMP) of norbornene and its derivs. In particular, dicationic complexes in the presence of Et diazoacetate were found to be extraordinarily efficient. The ionic character of the catalyst dets. the use of polar solvents and therefore the pptn. polymn. of monomers like norbornene. The ratio of methanol to dichloromethane in the solvent mixt. could be used to adjust the no.-av. mol. wt. of polynorbornene in the range of 3 .times. 105 g/mol up to 1 .times. 106 g/mol at a const. monomer to catalyst ratio of 1 .times. 103/1. By polymg. norbornene in neat methanol, the no.-av. mol. wts. could be varied between 2 .times. 103 and 3 .times. 105 g/mol by the addn. of certain quantities of 1-octene as a chain-transfer agent. According to the proposed mechanism, these polymers contain equiv. amts. of heptylidene and methylidene end-groups. Furthermore, Et diazoacetate was found to act not only as a carbene-generating co-catalyst, but also as a terminating agent. Consequently, an excess of Et diazoacetate could be used for the prepn. of telechelic polymers with two ester end-groups and a reduced mol.

09/514,023

wt.
REFERENCE COUNT: 23
REFERENCE(S):
(1) Bell, B; J Mol Catal 1992, V77, P61 CAPLUS
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CAPLUS
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(4) Cox, D; Inorg Chem 1990, V29, P1360 CAPLUS
(5) Cox, D; J Chem Soc Chem Commun 1988, P951 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 15 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:40296 CAPLUS
DOCUMENT NUMBER: 130:92216
TITLE: Activation of the complement system and cytokine production by radiographic contrast media in vascular endothelial cells in vitro
AUTHOR(S): Gyoten, Masayuki
CORPORATE SOURCE: Dep. Diagn. Radiol., Kawasaki Med. Sch., Kurashiki, 701-01, Japan
SOURCE: Nippon Igaku Hoshasen Gakkai Zasshi (1998), 58(14), 811-815
PUBLISHER: Nippon Igaku Hoshasen Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB The direct effect of four different radiog. contrast media (RCM) on the release of C3a and C5a and the formation of IL-1. α . and TNF-. α . from vascular endothelial cells was exmd. in vitro. The test RCM were diatrizoate (ionic monomer), iopamidol (nonionic monomer), ioxaglate (ionic dimer), and iotrolan (nonionic dimer). These were added to serum-free medium and adjusted to a final concn. of 1% (2.8 mg Iodine/mL). Human microvascular endothelial cells were stimulated by serum-free medium contg. the test RCM for 8 h. After incubation, the media were aspirated and assayed for the concns. of C3a, C5a, IL-1. α . and TNF-. α .. Finally, the cells were harvested by trypsin, and their viability was detd. by the dye-exclusion method. Diatrizoate and iotrolan had higher C3a release than the control ($p < 0.05$). No increase in C5a, IL-1. α . or TNF-. α . levels was obsd. with any of the tested RCM, and there was no significant difference in cell viability with any of the tested RCM. The results suggest that diatrizoate and iotrolan activated the complement system through the alternative pathway by directly stimulating vascular endothelial cells. These observations suggest that a direct effect of RCM on vascular endothelium might play a role in the pathogenesis of local drug eruptions due to RCM.

L6 ANSWER 16 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:625491 CAPLUS
DOCUMENT NUMBER: 129:309973
TITLE: The remarkable structural diversity of alkali metal pyridine-2-thiolates with mismatched crown ethers
AUTHOR(S): Chadwick, Scott; Ruhlandt-Senge, Karin
CORPORATE SOURCE: Department Chemistry, 1-014 Center Science Technology, Syracuse University, Syracuse, NY, 13244-4100, USA
SOURCE: Chem.--Eur. J. (1998), 4(9), 1768-1780
PUBLISHER: Wiley-VCH Verlag GmbH

09/514,023

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The metathesis reaction of butyllithium or sodium or potassium hydride with pyridine-2-thiol is effected in ethereal or hydrocarbon media, where the addn. of crown ether (which is essential in the case of sodium hydride) facilitates the metalation step. The reaction is driven forward irreversibly by the evolution of a volatile component (C₄H₁₀ or H₂). The choice of crown ether is of paramount importance in detg. the solid-state structural outcome. When the cavity size of the crown ether is matched with the alkali metal ionic radius, simple monomeric formulations are identified in [Li(12C₄)(NC₅H₄S-2)] (1) (12C₄ = [12]crown-4), [Na(15C₅)(NC₅H₄S-2)] (2) (15C₅ = [15]crown-5), and [K(18C₆)(NC₅H₄S-2)] (3) (18C₆ = [18]crown-6), although the geometrical relation between cation and anion in this series proved to be more complex than was anticipated. The complexes resulting from the pairing of crown ethers that are either too small or too large relative to the alkali metal exhibit a rich structural diversity that is a direct function of the macrocyclic donor: dimeric [{Li(NC₅H₄S-2)}₂{18C₆}] (4) and monomeric [Na(18C₆)(NC₅H₄S-2)] (5) are formed in the presence of 18C₆; the unprecedented metalloanionic [{Na(12C₄)₂}{Na(NC₅H₄S-2)₂(THF)}{Na(NC₅H₄-.mu.-S-2)(NC₅H₄S-2)}]₂ (6), with two hitherto unknown metalates, was obtained when 12C₄ is employed; and the unusual polymeric [{K(.mu.-NC₅H₄-.mu.-S-2)}₂{15C₅}].infin. (7) results from the templating ability of 15C₅. All complexes reported were identified primarily through single-crystal x-ray structural anal. together with ¹H and ¹³C NMR (solv. permitting), IR spectroscopy, and m.p. detn.

L6 ANSWER 17 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:128785 CAPLUS
DOCUMENT NUMBER: 128:241315
TITLE: Effect of radiographic contrast media on histamine release from human mast cells and basophils
AUTHOR(S): Peachell, P. T.; Morcos, S. K.
CORPORATE SOURCE: Department of Medicine and Pharmacology, The Royal Hallamshire Hospital, Sheffield University, Sheffield, S10 2JF, UK
SOURCE: Br. J. Radiol. (1998), 71(Jan.), 24-30
PUBLISHER: British Institute of Radiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Radiog. contrast media (RCM) cause histamine-dependent allergic-like reactions. The direct effects of diatrizoate (high osmolar ionic monomer), ioxaglate (low osmolar ionic dimer), iopromide (low osmolar non ionic monomer) and iotrolan (iso-osmolar non ionic dimer) at the concn. of 200 mgI ml⁻¹ (60 min exposure) on the release of histamine from human basophils, human lung mast cells (HLMC), and human skin mast cells (HSMC) were investigated. Diatrizoate induced 48.+-.4% histamine release in basophils, 15.+-.3% in HLMC and 25.+-.6% in HSMC. The remaining RCM were relatively ineffective activators of histamine release in both HLMC and HSMC (ioxaglate 4.+-.1% and 4.+-.1%, iopromide 5.+-.1% and 7.+-.2%, iotrolan 7.+-.2% and 10.+-.3%, resp.). Both iotrolan and ioxaglate were effective in basophils inducing 21.+-.3% and 24.+-.6% histamine release, resp., whereas iopromide was relatively ineffective (7.+-.4%). Diatrizoate induced histamine release from all three cell types with optimal levels of histamine release after a 2-4 h incubation although significant levels occurred within 15 min. Dose-dependent histamine release from HLMC

occurred in all four types of RCM, the largest response (37.+-3%) being produced by diatrizoate. The effect of osmolality on histamine release was investigated using different concns. of mannitol solns. (0.25, 0.5 and 1 M). Histamine release from HLMC, HSMC and basophils after 90 min exposure to mannitol (1 M) was 24.+-2% (p<0.05), 9.+-3% (p=0.06) and 49.+-1% (p<0.05), resp., suggesting that hyperosmolality per se can induce histamine release from basophils and mast cells. Diatrizoate-induced histamine release in all three cell types was significantly reduced by lowering the temp. to 0.degree.C and partially attenuated by the metabolic inhibitors antimycin A (1 .mu.M) and 2-deoxyglucose (5 mM), and by the omission of glucose from the buffer soln. Diatrizoate-induced histamine release was not dependent on extracellular calcium. These data suggest that diatrizoate induces histamine release at least in part by non-cytotoxic mechanisms.

L6 ANSWER 18 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1997:63222 CAPLUS
 DOCUMENT NUMBER: 126:95293
 TITLE: Two-phase catalysis in nonaqueous ionic liquids
 AUTHOR(S): Chauvin, Yves
 CORPORATE SOURCE: Fr.
 SOURCE: Actual. Chim. (1996), (7), 44-46
 CODEN: ACCHDG; ISSN: 0151-9093
 PUBLISHER: Dunod
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: French
 AB A review with 10 refs.; room temp. molten salts contg. quaternary ammonium cations (e.g. N,N'-dialkylimidazolium) and anions of controlled coordination ability, are effective solvents for organometallic-catalyzed hydrogenation, hydroformylation, dimerization and metathesis reactions.

L6 ANSWER 19 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1996:683340 CAPLUS
 DOCUMENT NUMBER: 126:46733
 TITLE: Nonaqueous room-temperature ionic liquids: a new class of solvents for catalytic organic reactions
 AUTHOR(S): Olivier, Helene; Chauvin, Yves
 CORPORATE SOURCE: Institut Francais du Petrole, Rueil-Malmaison, 92506, Fr.
 SOURCE: Chem. Ind. (Dekker) (1996), 68(Catalysis of Organic Reactions), 249-263
 CODEN: CHEIDI; ISSN: 0737-8025
 PUBLISHER: Dekker
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Room-temp. org.-inorg. ionic liqs. of the BMI+A- type (BMI+=1-butyl-3-methylimidazolium, A-=Al₂C₁₇-, AlCl₄-, BF₄-, PF₆- and SbF₆-) can be used as a new class of solvents for two-phase catalytic org. reactions. Their chem. and phys. properties can be varied with the nature of the A- anions and they can be fitted to catalyst precursors and reactions involved. These media can stabilize various transition metal complexes and are poorly sol. with hydrocarbons and aldehydes. Thus, the sepn. of the reaction products from the catalyst can be easily achieved by simple decantation. We have deliberately used these media for catalytic reactions of industrial petroleum

interest such as dimerization, alkylation, hydrogenation, metathesis, hydroformylation of olefins and cyclodimerization of butadiene. This extends the field of two-phase catalysis to substrates, complexes and ligands which are poorly sol. or unstable in water.

L6 ANSWER 20 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1995:805520 CAPLUS
 DOCUMENT NUMBER: 124:7940
 TITLE: Nonaqueous ionic liquids as reaction solvents
 AUTHOR(S): Chauvin, Yves; Olivier-Bourbigou, Helene
 CORPORATE SOURCE: Institut Francais du Petrole, Rueil-Malmaison, 92506, Fr.
 SOURCE: CHEMTECH (1995), 25(9), 26-30
 DOCUMENT TYPE: CODEN: CHTEDD; ISSN: 0009-2703
 LANGUAGE: Journal; General Review
 English
 AB Mixts. of quaternary ammonium salts and organoaluminum compds. are very effective solvents for metal catalyzed olefin dimerization and metathesis. Ionic liqs. show promise as solvents for two-phase catalysis; 26 refs.

L6 ANSWER 21 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1995:142481 CAPLUS
 DOCUMENT NUMBER: 122:133384
 TITLE: Chemistry of polyfunctional molecules. CXIII . Complexes of dicobalt octacarbonyl with bis(diphenylphosphino)amine and -amide ligands
 AUTHOR(S): Pohl, Diana; Ellermann, Jochen; Knoch, Falk A.; Moll, Matthias; Bauer, Walter
 CORPORATE SOURCE: Institut fuer Anorganische Chemie der Universitaet Erlangen-Nuernberg, Egerlandstr. 1, Erlangen, D-91058, Germany
 SOURCE: J. Organomet. Chem. (1994), 481(2), 259-74
 DOCUMENT TYPE: CODEN: JORCAI; ISSN: 0022-328X
 LANGUAGE: Journal
 German
 OTHER SOURCE(S): German
 CASREACT 122:133384
 AB The yield of the earlier published $\text{Co}_2(\mu\text{-CO})_2(\text{CO})_4(\mu\text{-dppa})_{0.5}$ C₆H₆ (4.5) [dppa = bis(diphenylphosphino)amine] could now be increased from 30% to 80%. In the polar solvent THF, $\text{Co}_2(\text{CO})_8$ and dppa react to the ionic complex $[\text{Co}(\text{CO})(\text{dppa})_2][\text{Co}(\text{CO})_4]_{0.5}$ THF (5a). Metatheses of 5a.5 with NaBPh₄ in ethanol led to the formation of $[\text{Co}(\text{CO})(\text{dppa})_2]\text{BPh}_4$ (5b). Under UV irradn. 4.5 and dppa gives the CO-bridging-free $\text{Co}_2(\text{CO})_4(\mu\text{-dppa})_2$ (7a). The course of the reaction was studied by IR spectroscopy. After adding n-hexane to the THF soln. of 7a the CO-bridged isomer $\text{Co}_2(\mu\text{-CO})_2(\text{CO})_2(\mu\text{-dppa})_2$ (7b) ppts. The structure of 7b was detd. by x-ray crystallog. $\text{Co}^{+2}(\mu\text{-CO})_4(\mu\text{-PPh}_2\text{NPPH}_2)(\mu\text{-PPh}_2^-)$ (9) was prep'd. from 4.5 and BuLi and ClPPh₂ in benzene. Suitable crystals for x-ray structural studies were obtained from a CH₂Cl₂/n-hexane mixt. The x-ray investigation showed that the Co-Co bond bridging anions [Ph₂NPPH₂]⁻ and PPh₂⁻ are in trans position to each other in 9.5. With the cobalt atoms they form five and three membered rings in the same plane. All compds. were characterized by ¹H NMR, ¹³C{¹H} NMR, ³¹P{¹H} NMR and IR spectroscopy.

09/514,023

L6 ANSWER 22 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1994:534448 CAPLUS
DOCUMENT NUMBER: 121:134448
TITLE: Thermal, magnetic, spectroscopic and solubility behavior of nickel myristate
AUTHOR(S): Mehrotra, K. N.; Baghel, G. L.; Verghese, S. P.; Jain, Mamta
CORPORATE SOURCE: Inst. Basic Sci., Agra Univ., Khandari, 282 002, India
SOURCE: Pol. J. Chem. (1994), 68(4), 807-16
CODEN: PJCHDQ; ISSN: 0137-5083
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:134448
AB The physicochem. characteristics of nickel soap (myristate) were investigated in the solid state and solns. using TGA, magnetic, spectroscopic (IR and visible spectra) and solv. measurements. The thermogravimetric results showed that the decompn. is a two stage zero order process. The energies of activation for two stage decompn. process below 473 .degree.K and above 573 .degree.K are 10.7 and 10.9 kCal mol⁻¹, resp. The magnetic and spectrophotometric measurements confirmed that nickel myristate has octahedral geometry and the metal-to-oxygen bonds in nickel myristate are partly covalent in nature. The IR spectra confirmed that the fatty acid exists with dimeric structure through hydrogen bonding between two mols. of fatty acid exists with dimeric structure through hydrogen bonding between two mols. of fatty acids exists with dimeric structure through hydrogen bonding between two mols. of fatty acids whereas metal-to-oxygen bonds in nickel myristate has an ionic character. The solv. reveals that the Krafft point for nickel soap in org. solvents lies within a narrow range of 311-316 .degree.K and the CMC were found to be higher in benzene than in chloroform and methanol.

L6 ANSWER 23 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1994:218749 CAPLUS
DOCUMENT NUMBER: 120:218749
TITLE: A New Class of Conjugated Ionic Polyacetylene. 2. Cyclopolymerization of Dihexyldipropargylammonium Salt by Metathesis Catalysts
AUTHOR(S): Kim, Sung-Hyun; Choi, Sang-Jun; Park, Jong-Wook; Cho, Hyun-Nam; Choi, Sam-Kwon
CORPORATE SOURCE: Department of Chemistry, Korea Advanced Institute of Science and Technology, Taejon, S. Korea
SOURCE: Macromolecules (1994), 27(8), 2339-41
CODEN: MAMOBX; ISSN: 0024-9297
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Dihexyldipropargylammonium tetraphenylborate was prep'd. and cyclopolymerd. with metathesis catalysts. The polymer (I) was insol. in highly polar solvents, but did dissolve in moderately polar solvents, such as CHCl₃ or THF. Fourier-transform IR, NMR, and UV spectra of I were given. Elec. cond. of blends of I with PVC leveled off at 0.5 .times. 10⁻³ S/cm at 40% I.

L6 ANSWER 24 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:496330 CAPLUS
DOCUMENT NUMBER: 119:96330

09/514.023

TITLE: A new class of conjugated ionic polyacetylene. Cyclopolymerization of dihexyldipropargylammonium salts by metathesis catalysts
AUTHOR(S): Kang, Kil Lye; Cho, Hyun Nam; Choi, Kil Yeong; Choi, Sam Kwon; Kim, Sung Hyun
CORPORATE SOURCE: Dep. Chem., Korea Adv. Inst. Sci. Technol., Taejon, 305-701, S. Korea
SOURCE: Macromolecules (1993), 26(17), 4539-43
CODEN: MAMOBX; ISSN: 0024-9297
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new class of substituted ionic polyacetylenes was synthesized by metathesis polymn. with transition-metal catalysts. The monomers used were dihexyldipropargylammonium salts having bromide and tosylate as counteranions. MoCl₅-based catalyst systems were very effective for the cyclopolymn. of these ionic monomers. The resulting dark-red polymers had good solv. in polar org. solvents, such as MeOH, DMSO, DMF, THF, CHCl₃, etc., indicative of their ionic nature. Polymer structure was confirmed by IR, UV-visible, and ¹H- and ¹³C-NMR spectroscopy. When doped with an electron acceptor such as I₂, the polymers exhibited a substantial increase in elec. cond. (10⁻³ S/cm) compared to the undoped state (10⁻⁹ S/cm).

L6 ANSWER 25 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:76212 CAPLUS
DOCUMENT NUMBER: 118:76212
TITLE: Mechanism of pain induced by radiocontrast media
AUTHOR(S): Corrado, A. P.; Ballejo, G.; Antunes, E.; De Nucci, G.
CORPORATE SOURCE: Sch. Med., Univ. Sao Paulo, Ribeirao Preto, Brazil
SOURCE: Toxicol. Lett. (1992), 64-65, 739-43
CODEN: TOLED5; ISSN: 0378-4274
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In lightly-anesthetized dogs, ionic or non-ionic RCM (Iotalamato and iohexol, resp.) when injected by intracarotid route (i.c.), elicit a pain response comparable to that caused by bradykinin (BK) or capsaicin (CAP). This response, which is characterized by vocalization, hyperpnea, bradycardia, and neck muscle contraction, was dose dependent and related to the osmolarity of the RCM. In the present study, it was obsd. that iodomethacin did not interfere with CAP and RCM-induced pain at dose (2 mg/kg i.c.) that reduced BK-elicited responses. In contrast, Ruthenium Red (RR), in dose (1 mg/kg i.c.) that reduced CAP and/or RCM-induced effects did not affect BK-induced phenomena. It is also verified that L-NAME (50 mg/kg i.c.) reduced the BK-, but not the CAP- and/or RCM-induced pain responses which suggests that an L-arginine-derived NO or related compd. is involved in BK activation of perivascular nociceptors. Indeed, it was found that i.c. injection of 20 mg of S-nitrosocysteine, a putative EDRF, caused BK-like responses. On the other hand, RCM and CAP appear to activate the same RR sensitive ionic channels of primary afferent endings. Therefore, RR-analogs could constitute a novel approach to minimizing or eventually abolishing the RCM side effects.

L6 ANSWER 26 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:663632 CAPLUS
DOCUMENT NUMBER: 117:263632

09/514,023

TITLE: Nitrogen pentafluoride: covalent NF₅ versus ionic NF₄⁺F⁻ and studies on the instability of the latter
AUTHOR(S): Christe, Karl O.; Wilson, William W.
CORPORATE SOURCE: Rockwell Int. Corp., Canoga Park, CA, 91309-7922, USA
SOURCE: J. Am. Chem. Soc. (1992), 114(25), 9934-6
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The presently available theor. and exptl. data for NF₅ were critically evaluated and expts. on the stability of ionic NF₄⁺F⁻ were conducted. Covalent NF₅ of D_{3h} symmetry and cryst. NF₄⁺F⁻ should be of comparable energy, but covalent NF₅ should suffer from severe ligand-crowding effects that would make its prepn. exptl. very difficult. Cryst. NF₄⁺F⁻ should be readily accessible from the known solvated NF₄⁺ and F⁻. The recent discoveries of a convenient prepn. of truly anhyd. NMe₄F as a source of sol. naked F⁻ and of solvents which possess sufficient kinetic stability toward strong oxidizers allowed one to carry out expts. on the thermal stability of NF₄⁺F⁻. At temps. as low as -142.degree. cryst. NF₄⁺F⁻ is unstable toward decompr. to NF₃ and F₂, a process which is calcd. as exothermic by .apprx.32 kcal mol⁻¹.

L6 ANSWER 27 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:451313 CAPLUS
DOCUMENT NUMBER: 117:51313
TITLE: Preparation of AOT-metal surfactants and their properties in nonaqueous and aqueous media
AUTHOR(S): Sugimura, Tokuko; Sindo, Yoichi; Hasegawa, Masatoshi; Kitahara, Ayao; Masuda, Yuzoh
CORPORATE SOURCE: Fac. Sci., Toho Univ., Chiba, 274, Japan
SOURCE: J. Dispersion Sci. Technol. (1992), 13(3), 251-69
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Salts (13) were prep'd. by the metathesis of Na bis(2-ethylhexyl) sulfosuccinate (AOT) with the chlorides of transition, alkali, and alk. earth metals. Di- and trivalent metal salts were di- and trisoaps, resp. Measurements of elec. cond. showed that the bond of the SO₃ group with the metals was ionic. The IR spectra showed little coordination interaction of carbonyl groups with metal ions. The aggregation no. detd. by vapor-pressure osmometry decreased with increasing metal valence in cyclohexane and benzene. This was interpreted as the result that micelle formation for di- or trivalent metal salts was disturbed by intermol. steric hindrance between aliph. chains extended in 2 or 3 directions. Plots of the solubilizing power for water vs. the ionic radius of the metals showed that the surfactants were roughly classified into 2 groups, i.e., AOT and divalent salts (except Ca). But no clear correlation between the ionic radius and the solubilizing power was obsd. in comparison among divalent metal salts. The morphologies of the aq. dispersions of salts were examd. by a polarizing microscope. Divalent metal salts (Co, Cu, Mn, and Ni) showed anisotropic morphologies, but trivalent metal salts (Fe and Cr) did not. The particle size of an aq. dispersion of the Co salt, measured using the dynamic light-scattering method, was 440-750 nm.

L6 ANSWER 28 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:37059 CAPLUS
DOCUMENT NUMBER: 116:37059

09/514,023

TITLE: Comparative study of the adverse effects of various radiographic contrast media, including ioversol, a new low-osmolarity medium. II.
AUTHOR(S): The complement system and endothelial cells
Akagi, Masaaki; Masaki, Sigehiro; Kitazumi, Kazuhiro;
Mio, Mitsunobu; Tasaka, Kenji
CORPORATE SOURCE: Fac. Pharm. Sci., Okayama Univ., Okayama, Japan
SOURCE: Methods Find. Exp. Clin. Pharmacol. (1991), 13(7), 449-54
DOCUMENT TYPE: CODEN: MFEPDX; ISSN: 0379-0355
LANGUAGE: Journal
English
AB The effects of ioversol, iohexol, iopamidol, and meglumine sodium amidotriazoate (MSA) on the complement system and endothelial cells were investigated. The protein bindings of the radiog. contrast media (RCM), each tested with guinea pig plasma, were <1%. When guinea pig serum was incubated with any of the RCM, activation of the complement system, which leads to hemolysis, was not influenced by the nonionic agents, ioversol, iohexol, or iopamidol. However, MSA, an ionic agent, reduced hemolytic activity at 370 mgI/mL. Perfusion of the abdominal aorta with nonionic agents did not elicit endothelial damage; ioversol induced the least damage among the nonionic RCM, while MSA caused marked endothelial damage. Although MSA caused a marked release of endothelin-1 from cultured endothelial cells obtained from porcine aorta, nonionic RCM did not induce endothelin-1 release; no influence was elicited by ioversol and iohexol caused a weak suppression, whereas iopamidol had the opposite effect. These results indicate that ioversol could be used as a safe contrast medium in intravascular administration.

L6 ANSWER 29 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:202536 CAPLUS
DOCUMENT NUMBER: 114:202536
TITLE: In vitro and in vivo studies of radiographic contrast media-induced histamine release in pigs
AUTHOR(S): Ennis, M.; Lorenz, W.; Nehring, E.; Schneider, C.
CORPORATE SOURCE: Inst. Theor. Surg., Philipps Univ., Marburg, W-3550, Fed. Rep. Ger.
SOURCE: Agents Actions (1991), 33(1-2), 26-9
DOCUMENT TYPE: CODEN: AGACBH; ISSN: 0065-4299
LANGUAGE: Journal
English
AB Routine clin. use of radiog. contrast media (RCM) causes adverse reactions in some patients. Thus, RCM-induced histamine release from isolated mast cells was compared with the in vivo release of histamine and cardiovascular symptoms using a porcine model. The 2 non-ionic preps. exmd. (Solutrast and Ultravist) released little or no histamine from the 4 cell types tested (porcine pulmonary, cardiac, hepatic, and renal mast cells). The 4 ionic preps. (Angiographin, Hexabrix, Rayvist, and Telebrix) caused histamine release from most of the cell suspensions. In almost all cases, the cardiac mast cells were the most sensitive followed by the hepatic mast cells. All 4 RCM tested in vivo produced elevated plasma histamine levels in some animals. The highest incidence was obsd. using the ionic, high osmolal Rayvist (6 of 12 animals), followed by the non-ionic RCM with the lowest osmolality Ultravist (4 of 12 animals). In vivo, mechanisms in addn. to direct histamine release may also be involved in RCM-induced adverse reactions.

since low osmolal, non-ionic RCM can cause elevated plasma histamine levels without in vitro release. The susceptibility of cardiac mast cells to RCM-induced histamine release suggests that patients undergoing e.g. coronary angiog. may be esp. at risk for an adverse reaction.

L6 ANSWER 30 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1991:77914 CAPLUS
 DOCUMENT NUMBER: 114:77914
 TITLE: Production and characterization of improved liposomes containing radiographic contrast media
 AUTHOR(S): Adzamli, I. Kofi; Seltzer, Steven E.; Slifkin, Michelle; Blau, Monte; Adams, Douglass F.
 CORPORATE SOURCE: Dep. Radiol., Harvard Med. Sch., Boston, MA, USA
 SOURCE: Invest. Radiol. (1990), 25(11), 1217-23
 CODEN: INVRAV; ISSN: 0020-9996
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Liposomes prep'd. by the reverse-phase evapn. method (REVs) and a modification of this technique that employs a microemulsifier (MREVs), were examd. for the delivery of radiog. contrast media (RCM) to the liver and spleen. The modification entailed substituting a Microfluidizer (Microfluidics Inc., Newton, MA) for the sonication step of the REV technique. The MREV procedure is amenable to large-scale prodn. and continuous-flow operation and yields products with high RCM encapsulation. Efficiently entrapped are ionic, high-osmolar diatrizoate (24.38% vs. 8.35%; MREV vs. REV), and nonionic, low osmolar Iotrolan (Schering AG, Berlin, FRG) (24.84% vs. 7.25%) RCM with I-to-lipid ratio of 1.5:1. The MREV procedure, therefore, has practical advantages over the REV method. High liver and spleen uptakes of Iotrolan-contg. vesicles were noted in normal rats. The diatrizoate MREVs lost their contents on contact with serum, resulting in urinary excretion of this agent. Computed tomog. values of splenic and hepatic sections, 1 h after i.v. injection of Iotrolan MREV (500 mgI/kg), are 0.78 and 0.08 Hounsfield Units (HU)/mgI/kg, resp. (vs. 0.01, and 0.006 HU/mgI/kg for free Iotrolan).

L6 ANSWER 31 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1990:194545 CAPLUS
 DOCUMENT NUMBER: 112:194545
 TITLE: The effects of radiographic contrast media on myocardial contractility and coronary resistance: osmolality, ionic concentration, and viscosity
 AUTHOR(S): Fleetwood, Gillian; Bettmann, Michael A.; Gordon, John L.
 CORPORATE SOURCE: Clin. Res. Cent., MRC, Harrow/Middlesex, UK
 SOURCE: Invest. Radiol. (1990), 25(3), 254-60
 CODEN: INVRAV; ISSN: 0020-9996
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The perfused rat heart model was used to investigate the effects on cardiac and coronary function of hypertonic ionic (NaCl) and nonionic (glucose) solns. and conventional and low osmolality radiog. contrast media (RCM). The concurrent effects of RCM were also evaluated on prostacyclin and adenine nucleotide/nucleoside release. Hypertonic solns. of glucose had little effect on myocardial contraction (increase Δt to $\approx 7.7\%$), whereas NaCl

solns. of similar osmolality were neg. inotropic (contractile force decreased $\Delta t \approx 76.1\%$). Conventional RCM were neg. inotropic (decrease of 59.6% with Conray, 32.2% with Angiovist 282); 2 nonionic RCM, Iopamidol and Iotrol had little effect on myocardial contraction (redn. of 6.9% and increase of 12.0%, resp.). Hypertonic solns. of glucose and NaCl reduced coronary resistance in direct relation to hyperosmolality. Conventional RCM also reduced coronary resistance, whereas the nonionic media caused minor alteration. None of the solns. tested altered prostacyclin or adenine nucleotide/nucleoside efflux from the heart. A soln. of Ficoll 70 with a viscosity similar to that of RCM increased myocardial contraction by 9.6% and had no effect on coronary resistance, indicating that viscosity per se did not contribute to the neg. inotropic effects or the redn. in coronary resistance. Hypertonic solns., including conventional RCM, reduce coronary resistance as a result of their hyperosmolality. Neg. inotropic effects, however, are more related to high ionic concn. than to osmolality.

L6 ANSWER 32 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1990:15512 CAPLUS

DOCUMENT NUMBER: 112:15512

TITLE: Syntheses and crystal structures of the crown ether complexes $[Li_3(12\text{-crown}\text{-}4)3OAc][Cd(Se_4)_2]$, $\{[K(18\text{-crown}\text{-}6)]_2[Hg(Se_4)_2]\}_2$, and $[Na(15\text{-crown}\text{-}5)]NO_3$

AUTHOR(S): Kraeuter, Gertrud; Weller, Frank; Dehnicke, Kurt

CORPORATE SOURCE: Fachbereich Chem., Univ. Marburg, Marburg, D3550, Fed. Rep. Ger.

SOURCE: Z. Naturforsch., B: Chem. Sci. (1989), 44(4), 444-54
CODEN: ZNBSEN; ISSN: 0932-0776

DOCUMENT TYPE: Journal
LANGUAGE: German

AB $[Li_3(12\text{-crown}\text{-}4)3OAc][Cd(Se_4)_2]$ (I) was prep'd. by the reaction of $[Li(12\text{-crown}\text{-}4)]_2Se_6$ with $Cd(OAc)_2$ in ethanolic soln. $[K(18\text{-crown}\text{-}6)]_2[Hg(Se_4)_2]$ (II) was prep'd. by the reaction of $[K(18\text{-crown}\text{-}6)]_2Se_6$ with $Hg(OAc)_2$ in the same solvent. Both compds. form dark red crystals, characterized by single crystal x-ray structure detns. The only product to be isolated from the reaction of $Bi(NO_3)_3 \cdot 5H_2O$ with $[Na(15\text{-crown}\text{-}5)]_2Se_6$ in ethanolic soln. was $[Na(15\text{-crown}\text{-}5)]NO_3$ (III) whose structure was detd. I is orthorhombic space group $Pbca$, $Z = 8$. The compd. forms a dicationic ensemble, in which three Li ions coordinate with the O atoms of the acetate ion. In the anions the Cd atom is coordinated tetrahedrally by 4 Se atoms of 2 Se_4^{2-} units. II is triclinic space group $P\bar{1}h\bar{1}h\bar{1}h\bar{1}$, $Z = 1$. The compd. has a complex ionic structure, in which the formula units form centrosym. dimers through K-O contacts between 2 cations. In addn. there are K-O contacts with the spiro-bicyclic anions, which, together with 6 K-O bonds within the crowns, lead to the coordination no. of 8 for the remaining K ions. III is orthorhombic space group $P2_12_12_1$, $Z = 4$. The compd. forms ion pairs, in which the Na atom coordinates with the 5 O atoms of the crown ether, as well as with 2 O atoms of the nitrate ion with Na-O bond lengths of 240 and 247 pm.

L6 ANSWER 33 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1984:546938 CAPLUS

DOCUMENT NUMBER: 101:146938

TITLE: Modification of platelet aggregation and thromboxane synthesis by intravascular contrast media

AUTHOR(S): Paajanen, Hannu; Kormano, Martti; Uotila, Pekka

09/514,023

CORPORATE SOURCE: Dep. Physiol., Univ. Turku, Turku, 20520, Finland
SOURCE: Invest. Radiol. (1984), 19(4), 333-7
CODEN: INVRAV; ISSN: 0020-9996

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Radiog. contrast media (RCM) decreased platelet aggregation in human platelet-rich plasma (PRP) after addn. of arachidonic acid (AA) or ADP. Unlike hypertonic saline, diatrizoate, ioxaglate, and iopamidol (40 and 160 mM) inhibited AA-induced aggregation. Ioxaglate at 160 mM inhibited slightly the concomitant formation of immunoreactive thromboxane B2 (TXB2). The ionic RCM ioxaglate (40 and 160 mM) and diatrizoate (160 mM), but not the nonionic iopamidol, decreased the ADP-induced aggregation more than hypertonic saline. When PRP was incubated with different RCM without any aggregating agents or with ADP, the formation of TXB2 was negligible. Evidently, inhibition of AA- and ADP-induced platelet aggregation by RCM is partly due to hypertonicity and partly related to the chem. structure of the RCM mol. The inhibition of AA-induced aggregation is not caused by the lack of formation of aggregatory TXA2.

L6 ANSWER 34 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1984:525978 CAPLUS
DOCUMENT NUMBER: 101:125978
TITLE: The effect of ionic and nonionic contrast media on the metabolism of prostaglandin E2 in rat lungs
AUTHOR(S): Paajanen, Hannu
CORPORATE SOURCE: Dep. Physiol., Univ. Turku, Turku, SF-20520, Finland
SOURCE: Invest. Radiol. (1984), 19(3), 216-20
CODEN: INVRAV; ISSN: 0020-9996
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Pulmonary inactivation of PGE2 was investigated in isolated perfused rat lungs during infusion of ionic and nonionic radiog. contrast media (RCM). When 100 nmol of [14C]PGE2 was infused slowly into the pulmonary circulation, the ionic ioglycamate decreased the metab. of PGE2, but other ionic (diatrizoate and ioxaglate) and nonionic RCM (iopamidol and metrizamide) had no effect. When a smaller amt. of [14C]PGE2 (10 nmol) was injected as a bolus, the metab. of PGE2 was decreased also by diatrizoate and ioxaglate, but not by iopamidol. After a similar bolus injection of 10 nmol of [14C]PGE2, the efflux of radioactivity from the lungs was increased by diatrizoate, ioglycamate, and ioxaglate but remained unchanged by iopamidol and metrizamide. The RCM infusion did not change the perfusion pressure. Evidently, ionic RCM decrease the inactivation of PGE2 in rat lungs and thus possibly increase the circulating level of this prostaglandin.

L6 ANSWER 35 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1984:403185 CAPLUS
DOCUMENT NUMBER: 101:3185
TITLE: Effect of metrizamide, a nonionic radiographic contrast agent, on human serum complement. Comparison with ionic contrast media
AUTHOR(S): Von Zabern, I.; Przyklenk, H.; Nolte, R.; Vogt, W.
CORPORATE SOURCE: Dep. Biochem. Pharmacol., Max-Planck-Inst. Exp. Med., Goettingen, D-3400, Fed. Rep. Ger.
SOURCE: Int. Arch. Allergy Appl. Immunol. (1984), 73(4), 321-9

09/514,023

CODEN: IAAAAM; ISSN: 0020-5915

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB The nonionic radiog. contrast material (RCM) metrizamide causes consumption of total complement activity in normal human serum (NHS) in vitro in the absence and, to a lesser extent, also in the presence of EDTA. The depression of titers of total complement is related to an inactivating effect of metrizamide on component C2. Furthermore, metrizamide induces activation of the alternative pathway, as evidenced by the appearance of C3 and factor B cleavage products in NHS, dependent on the presence of divalent cations. Alternative pathway activation is probably mediated by an antagonizing effect of metrizamide on the inactivation of C3b. Unlike ionic RCM, the nonionic substance metrizamide does not lead to cleavage of the internal thio ester bond present in native C3 and C4 at concns. that produce potent consumption of C3 activity in NHS.

L6 ANSWER 36 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1983:484476 CAPLUS

DOCUMENT NUMBER: 99:84476

TITLE:

Different effect of diatrizoate and iopamidol on prostaglandin synthesis in perfused hamster lungs

AUTHOR(S): Paajanen, Hannu; Uotila, Pekka; Kormano, Martti

CORPORATE SOURCE: Dep. Physiol., Univ. Turku, Turku, Finland

SOURCE: Invest. Radiol. (1983), 18(4), 375-81

CODEN: INVRAV; ISSN: 0020-9996

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis of prostaglandins and other metabolic products of arachidonic acid (AA) was investigated in isolated perfused lungs of hamsters during the infusion of various concns. of meglumine diatrizoate and iopamidol. [14C]AA (40 nmol) was infused into the pulmonary circulation with radiog. contrast media (RCM), and prostaglandins, thromboxanes, and metabolites of lipoxygenases were analyzed from the nonrecirculating perfusion effluent. Arachidonate infusion increased the perfusion pressure. This pressor response was decreased by iopamidol but was not changed by diatrizoate. The amt. of radioactivity was decreased in the perfusion effluent and increased in lung lipids by iopamidol. Meglumine diatrizoate increased radioactivity in the effluent with minimal effects on the distribution of radioactivity in lung lipids. Almost all arachidonate metabolites were decreased by iopamidol when compared with hypertonic saline whereas diatrizoate caused an increasing trend in the formation of the metabolites of AA. The present study shows that ionic and nonionic RCM have different effects on the metab. of arachidonic acid.

L6 ANSWER 37 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1983:13794 CAPLUS

DOCUMENT NUMBER: 98:13794

TITLE:

The effect of radiographic iodized contrast media on coagulation, fibrinolysis, and complement system

AUTHOR(S): Schulze, B.; Beyer, H. K.

CORPORATE SOURCE: Abt. Roentgendifagnostik, Staedt. Kran Kenan Stalen, Esslinger, D-7300, Fed. Rep. Ger.

SOURCE: Contrast Media Radiol.: Appraisal Prospects, Eur. Workshop, Proc., 1st (1982), Meeting Date 1981, 31-9.
Editor(s): Amiel, Michel; Moreau, J. F. Springer:

Berlin, Fed. Rep. Ger.
CODEN: 48WYAK

DOCUMENT TYPE:

Conference

LANGUAGE:

English

AB The effects of the following radiocontrast media (RCM) on human blood coagulation, fibrinolysis, and complement system were studied: nephrotropic diatrizoate, iothalamate, ioglicinate, and ioxitalamate; hepatotropic iodipamide, iodoxamate, ioglycamide, and iotroxinate; nonionic metrizamide and iopamidol; and the ionic dimer ioxaglate. In vitro, the RCM, esp. the hepatotropic ones, delayed coagulation, but had no effect in vivo. They also did not affect fibrinolysis or the complement system in vivo. However, in patients with anaphylactic adverse reaction to RCM, fibrinolytic activity and the C3b cleavage product level were increased by the compds.

L6 ANSWER 38 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1980:614545 CAPLUS

DOCUMENT NUMBER: 93:214545

TITLE: Synthesis and properties of NF4+SO3F-

AUTHOR(S): Christe, Karl O.; Wilson, Richard D.; Schack, Carl J.

CORPORATE SOURCE: Div. Rockwell Int. Corp., Rocketdyne, Canoga Park, CA, 91304, USA

SOURCE: Inorg. Chem. (1980), 19(10), 3046-9

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The novel salt NF4SO3F was prep'd. by metathesis between NF4SbF6 and CsSO3F in anhyd. HF soln. at -78.degree.. In HF soln., NF4SO3F is stable at room temp. Removal of the solvent produces a white solid which is stable at 0.degree. but slowly decomp's. at +10.degree. to produce FOSO2F and NF3 in high yield. The ionic nature of NF4SO3F, both in the solid state and in HF soln., was established by Raman and 19F NMR spectroscopy. Cs2SO4 reacts with anhyd. HF, producing CsSO3F as the major product. Similarly, CsP02F2, the Raman spectrum of which is reported, reacts with HF to give CsPF6 in quant. yield.

L6 ANSWER 39 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1980:568383 CAPLUS

DOCUMENT NUMBER: 93:168383

TITLE: Preparations of cyclopentadienylruthenium complexes with trimethylphosphine ligands

AUTHOR(S): Treichel, P. M.; Komar, D. A.

CORPORATE SOURCE: Dep. Chem., Univ. Wisconsin, Madison, WI, 53706, USA

SOURCE: Synth. React. Inorg. Met.-Org. Chem. (1980), 10(2), 205-18

CODEN: SRIMCN; ISSN: 0094-5714

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The reaction of Ru(C5H5)(PPh3)2Cl with PMe3 in the polar solvent EtOH, followed by metathesis, gives [Ru(C5H5)(PPh3)2(PMe3)]PF6. However in a less polar solvent, toluene, the reaction proceeds in a different manner, giving Ru(C5H5)(PMe3)2Cl. A reaction with dpe occurs in a similar fashion to give Ru(C5H5)(dpe)Cl. The compds., Ru(C5H5)(PMe3)2X (X = Br, I, SCN), can be prep'd. from the chloride complex by anion exchange, and the compd. with X = SnCl3 can be prep'd. by addn. of SnCl2 to this precursor. Ionic complexes [Ru(C5H5)(PMe3)2L]X (L = PMe3, CO, PPh3) are formed from Ru(C5H5)(PMe3)2Cl and these several ligands in polar solvents; these cations were metathesized with

09/514,023

NH₄PF₆ and isolated as PF₆- salts. The reaction of Ru(C₅H₅)(PMe₃)₂Cl with AgBF₄ in MeCN gives [Ru(C₅H₅)(PMe₃)₂(MeCN)]BF₄ and the reaction with NOPF₆ gives [Ru(C₅H₅)(PMe₃)₂(NO)](PF₆)₂. The reaction of Ru(C₅H₅)(CO)₂Cl with PMe₃ gives predominately [Ru(C₅H₅)(CO)(PMe₃)₂]⁺ whereas the reaction of Ru(C₅H₅)(CO)₂I with PMe₃ gives a mixt. contg. [Ru(C₅H₅)(CO)_{3-x}(PMe₃)_x]⁺ (x = 1, 2) and Ru(C₅H₅)(CO)(PMe₃)I. The complex [Ru(C₅H₅)(CO)₂(PMe₃)]PF₆ is best prep'd. by displacement of MeCN from [Ru(C₅H₅)(CO)₂(MeCN)]PF₆.

L6 ANSWER 40 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1965:478611 CAPLUS
DOCUMENT NUMBER: 63:78611
ORIGINAL REFERENCE NO.: 63:14422d-g
TITLE: Metal chelates of 1-amino-7-imino-1,3,5-cycloheptatrienes
INVENTOR(S): Muetterties, Earl L.
PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.
SOURCE: 3 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 3177232		19650406	US	19630701

GI For diagram(s), see printed CA Issue.

AB Metal complexes of the general formula I where M is a Group IVA element with an at. no. from 14 to 50, inclusive (i.e., Si, Ge, or Sn), X is an anion; Y is Cl, Pr, or SO₃H; n is 0 to 2; and Z is H, a C₁-10 aliphatically satd. hydrocarbon radical or such a radical bearing halo, nitro, sulfo, lower alkoxy, and lower dialkylamino substituents are prep'd. by a 1- or 2-step process which consists of (a) bringing in contact in an aprotic org. solvent, a metal tetrahalide M(hal)₄, where M is Si, Ge, or Sn and hal stands for Cl or Br, with a 1-amino-7-imino-1,3,5-cycloheptatriene (II) having H on the amino N, whereby there is a spontaneous formation of an ionic chelate in which the anion is Cl- or Br-, and (b) if a different chelate salt is desired, bringing in contact in aq. soln. the above bromide or chloride chelate with a salt of a strong base and an acid whose anion is other than Cl or Br whereby metathesis occurs to give a chelate of the same structure but where the Cl or Br is replaced by the new anion. Thus, a soln. of 1.7 g. (0.01 mole) SiCl₄ and 3 g. (0.03 mole) (Et)₃N in 40 ml. CHCl₃ was added to a soln. of 5 g. (0.033 mole) 1-methylamino-7-methylinimo-1,3,5-cycloheptatriene (III) in 40 ml. CH₂Cl₂ to give a yellow ppt. of tris(1-methylamino-7-methylinimo-1,3,5-cycloheptatrieno)silicon chloride. The chelate was filtered and dissolved in aq. MeOH. To this soln. was added a satd. aq. soln. of NH₄PF₆. There was an immediate pptn. of tris(1-methylamino-7-methylinimo-1,3,5-cycloheptatrieno)silicon hexafluorophosphate. After recrystn. from a hot H₂O-MeOH-CH₃CN mixt., this chelate was obtained as yellow crystals melting at 269.degree.. Similarly prep'd. were (m.p. given): (C₉H₁₁N₂)₃SiI, 300.degree.; (C₉H₁₁N₂)₃GeBr, -; (C₉H₁₁N₂)₃GePF₆, 291-4.degree.; (C₉H₁₁N₂)₃SnBr, -; (C₉H₁₁N₂)₃SnPF₆, 253-8.degree..

L6 ANSWER 41 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1965:478610 CAPLUS
DOCUMENT NUMBER: 63:78610
ORIGINAL REFERENCE NO.: 63:14422a-d

09/514,023

TITLE: Silicon and germanium chelates of tropolones
INVENTOR(S): Muetterties, Earl L.
PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.
SOURCE: 4 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3177237		19650406	US	19630701

GI For diagram(s), see printed CA Issue.

AB Metal complexes of the general formula I, where M is Si or Ge, X is an acid-forming anion; Y is a nuclear substituent such as an aliphatically satd. hydrocarbon radical of from 1 to 10]C atoms, a lower alkoxy radical, halo, hydroxymethyl, hydroxy, or nitro; and n is a whole number from 0 to 3 inclusive, are prepd. by a one- or two-step process which consists (a) bringing in contact in an aprotic org. solvent a metal tetrahalide M(hal)₄, where hal stands for Cl or Br, with a tropolone, whereby an ionic chelate in which the anion is Cl⁻ or Br⁻, and (b) if a different chelate salt is desired, bringing in contact in aq. soln. the above Cl or Br chelate with a salt of a strong base and an acid whose anion is other than Cl or Br, whereby metathesis occurs to give a chelate of the same structure but where the Cl or Br anion is replaced by the new anion. Thus, a soln. of 0.0406 mole of SiCl₄ in 50 ml. of CHCl₃ was added dropwise under N to a soln. of 0.1225 mole tropolone in 200 ml. CHCl₃. Heat was evolved during the addn. and a cream-white ppt. of the cationic tropolone chelate sepd. After addn. was completed, a stream of N was passed through the soln. to remove the HCl and the slurry was refluxed 1 hr. to give white tri(tropolono)silicon chloride (II) m. 290.degree. (CHCl₃-MeOH) contg. 0.75 mole CHCl₃, which can be removed by heating. To a soln. of II in H₂O-MeOH was added a satd. aq. soln. of ammonium hexafluorophosphate to give a white tris(tropolono)silicon hexafluorophosphate m. 280.degree., (H₂O-MeOH-MeCN). Similarly prepd. were (m.p. given): (C₇H₅O₂)₃SiI, >300.degree.; tris(tropolono)silicon picrate, -: (C₇H₅O₂)₃GeCl, >300.degree.; (C₇H₅O₂)₃GeBr,-; (C₇H₅O₂)₃GeI, >300.degree.; (C₇H₅O₂)₃SiB(C₆H₅)₄, 117-18.degree.; tris(tropolono)silicon tetracyanoquinodimethanide, 248-9.degree.; tris(tropolono)silicon 2,3-dichloro-5,6-dicyano-1,4-benzoquinone, 188-9.degree..

L6 ANSWER 42 OF 44 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1962:467472 CAPLUS

DOCUMENT NUMBER: 57:67472

ORIGINAL REFERENCE NO.: 57:13397c-d

TITLE: Cationic organoboron complexes. II

AUTHOR(S): Davidson, J. M.; French, C. M.

CORPORATE SOURCE: Queen Mary Coll., London

SOURCE: J. Chem. Soc. (1962) 3364-8

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. CA 52, 8817f. Chlorodiphenylborane and 10-chloro-9-oxa-10-boraanthracene undergo metathesis with Ag salts of strong acids in basic solvents to form electrolytic solns. The structures of these solns. are discussed and their products of reaction with 2,2'-bipyridine (I) are described. The complexes of I with the diphenylboronium ion and with 9-oxa-10-boroniaanthracene contain a satd.

tetrahedral B atom. Similarly, the 1:1 and 2:1 complexes of chlorodiphenylborane with I are ionic compds. of the 2,2'-bipyridinediphenylboronium ion.

L6 ANSWER 43 OF 44 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1959:16692 CAPLUS
 DOCUMENT NUMBER: 53:16692
 ORIGINAL REFERENCE NO.: 53:3031i,3032a-f
 TITLE: Reactions of nitrate esters. V. Decomposition of primary nitrates in perfluorinated acids
 AUTHOR(S): Merrow, Raymond T.; Whitnack, Gerald C.
 CORPORATE SOURCE: U.S. Naval Ordnance Test Sta., China Lake, CA
 SOURCE: J. Org. Chem. (1958), 23, 1224-5
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB cf. C.A. 50, 13796c. Leaving RCH₂ONO₂ in CF₃CO₂H (I) 24 hrs. or less at room temp. gives as the main product nitric oxide (II) and the corresponding carboxylic acid. The reaction is catalyzed by ultraviolet light, although it does proceed in the dark. Atm. O does not seem to be effective. A similar reaction occurs in other perfluorinated acids but not in 100% AcOH or 100% H₂SO₄. BuONO₂ (0.1 mole) in 40 ml. ice cold I cooled 6 hrs. in an ice H₂O bath and then left 18 hrs. at room temp. gave 7 g. butyl trifluoroacetate, b₇₁₃ 102-3.°, n_D²⁶ 1.3376, and 5.1 g. PrCO₂H, b₇₁₃ 158-60.°. From the tarry residue were obtained traces of an H₂O-sol. solid acid, m. 125-30.° (decompn.), but there was insufficient for characterization. It was detd. in a sep. expt. by absorption in H₂SO₄ and titration of the nitrosylsulfuric acid with KMnO₄. The run was carried out under N, and proceeded in the same manner as the other expt., except that no appreciable color developed. From 20 ml. BuONO₂ there was obtained 9.27 millimoles II. EtONO₂ and PrONO₂ in I decompd. to give qualitatively the same types of products; the solid material from EtONO₂ was identified as (CO₂H)₂, m. 101-2.°. BuONO₂ was recovered quantitatively after 24 hrs. at room temp. from solns. in 100% AcOH; solns. in H₂SO₄ gave no oxides of N, although the nitrate ester could not be recovered by drowning the soln. in H₂O. The formation of the alkyl trifluoroacetates may be achieved by ordinary metathesis, or by the complex ionization similar to that reported for solns. of alkyl nitrates in H₂SO₄ (Kuhn, C.A. 41, 7219a). 2,3-Dinitroxybutane was found to react readily giving oxides of N and Ac₂. The rate of disappearance of BuONO₂ was followed polarographically. Thus an 0.025M soln. of BuONO₂ in I was prep'd. and a portion placed in a 1 cc. quartz cell and scanned in the ultraviolet region periodically. There was no essential change in the absorbance during the 1st 8 hrs.; after 24 hrs. the absorbance was much greater, however, the bulk of the soln. showed the same absorbance after 24 hrs. as it did initially. The absorbance did not increase until sometime between 36 and 48 hrs. Samples of the same soln. were polarographed periodically; 1 ml. aliquots were added to 5 ml. 95% alc. contg. 3 drops methyl red, the soln. brought to the 1st permanent yellow color with 0.5N NaOH, then made up to 10 ml. with 95% alc.; these solns. were polarographed from 0 to -2.0 volts. The BuONO₂ concn. was found to decrease steadily with no induction period. The half life at this concn. was about 56 hrs. The data fit a 1st-order rate law fairly well, but the values of k vary greatly with concn. The apparent induction period was shortened and the rate of BuONO₂ disappearance was increased by exposure of the soln. to unfiltered light from an Hg arc lamp. While the mild conditions and the nature of the solvent suggest an ionic mechanism for this decompn., the nature of the products and catalysis by ultraviolet light are indicative of a radical process.

L6 ANSWER 44 OF 44 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1955:22576 CAPLUS
DOCUMENT NUMBER: 49:22576
ORIGINAL REFERENCE NO.: 49:4374h-i,4375a-c
TITLE: Solutions of metal soaps in organic solvents
IV. Direct current conductivity in solutions of
metal oleates in toluene
AUTHOR(S): Nelson, S. M.; Pink, R. C.
CORPORATE SOURCE: Queen's Univ., Belfast, Ire.
SOURCE: J. Chem. Soc. (1954) 4412-17
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. C.A. 46, 8468e. Soaps prep'd. by metathesis of K oleate in MeOH with an aq. salt. soln. of the metal were washed with H₂O and EtOH and recrystd. from C₆H₆ where possible. Metal contents found and calcd. in % were: Zn 10.43, 10.41; Cu 10.07, 10.15; Pb 26.55, 26.93; Mg 4.22, 4.55; Ca 6.85, 6.65. The dielec. loss in toluene solns. of these oleates was due to d.-c. cond. The conductivities at 25.degree. and other properties show a gradation in valency type from Zn oleate, which is almost nonpolar, to Mg and Ca oleates, which appear to be wholly ionic in character. In concd. soln. the equiv. cond. increases with increasing concn. and with decrease in temp. These effects are attributed to assocn. of mols. and ions into aggregates, the equiv. cond. increasing with increase in aggregate size indicated by increase in viscosity. Equiv. cond. of Mg oleate in CHCl₃ was considerably greater than in toluene. The possibility that the cond. observed in the metal oleate solns. might be due to traces of impurities was examd. by adding known amts. of water, inorg. precipitant, or oleic acid. Water had a negligible effect except with Ca and Mg oleates which probably form insol. hydrates to lower the cond. Inorg. compds. had little effect except in the presence of H₂O. No increase in dielec. loss over that of pure solvent was observed even in concd. solns. of oleic acid in toluene. This work is of value when considering the characteristics of transformer oils.

09/514,023

L1 1049 S IONIC LIQUID
L2 8614 S METATHESIS
L3 16 S L1 AND L2

=> d ibib abs l3 1-16

L3 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:876019 CAPLUS
DOCUMENT NUMBER: 134:193157
TITLE: Electrophilic nitration of aromatics in ionic liquid solvents
AUTHOR(S): Laali, Kenneth K.; Gettwert, Volker J.
CORPORATE SOURCE: Department of Chemistry, Kent State University, Kent, OH, 44242, USA
SOURCE: J. Org. Chem. (2001), 66(1), 35-40
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ionic liqs., including 1-ethyl-3-methylimidazolium salts [emim][X] (X = OTf-, CF₃COO-, NO₃-) and [HNEt(CHMe₂)₂][CF₃COO] (protonated Hunig's base), were used as solvents for electrophilic nitration of aroms. with a variety of nitrating systems, namely NH₄NO₃/TFAA, isoamyl nitrate/BF₃.cntdot.Et₂O, isoamyl nitrate/TfOH, Cu(NO₃)/TFAA, and AgNO₃/Tf₂O. Among these, NH₄NO₃/TFAA [with [emim][CF₃COO], [emim][NO₃]], isoamyl nitrate/BF₃.cntdot.Et₂O, and isoamyl nitrate/TfOH [with [emim][OTf]] provided the best overall systems both in terms of nitration efficiency and recycling/reuse of the ionic liqs. For [NO₂][BF₄] nitration, the commonly used ionic liqs. [emim][AlCl₄] and [emim][Al₂Cl₇] are unsuitable, as counterion exchange and arene nitration compete. The [Emim][BF₄] ionic solvent is ring nitrated with [NO₂][BF₄] producing [NO₂-emim][BF₄] salt, which is of limited utility due to its increased viscosity. Nitration in ionic liqs. was surveyed using a host of arom. substrates with varied reactivities and the preparative scope of the ionic liqs. was extended. Counterion dependency of the NMR spectra of the [emim][X] liqs. was used to gauge counterion exchange (metathesis) during nitration. Ionic liq. nitration is a useful alternative to classical nitration routes due to easier product isolation and recovery of the ionic liq. solvent, and because it avoids problems assocd. with neutralization of large quantities of strong acid.
REFERENCE COUNT: 23
REFERENCE(S): (1) Adams, C; Chem Commun 1999, P1043 CAPLUS
 (3) Boon, J; Proceedings of the Joint International Symposium on Molten Salts; 6th 1987, P979 CAPLUS
 (4) Carmichael, A; Org Lett 1999, V1, P997 CAPLUS
 (5) Carmichael, H; Chem Britain 2000, V36, P36 CAPLUS
 (6) Coon, C; J Org Chem 1973, V38, P4243 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:795796 CAPLUS
TITLE: Polycationic liquid salts.
AUTHOR(S): Lall, Sharon; Shteto, Valbona; Castro, Steve; Han, Jung-ah; Horowitz, Farrah; Cohen, JaimeLee Iolani; Engel, Robert
CORPORATE SOURCE: Department of Chemistry and Biochemistry, Queens

09/514,023

SOURCE: College, Flushing, NY, 11367, USA
Abstr. Pap. - Am. Chem. Soc. (2000), 220th, INOR-350
CODEN: ACSRAL; ISSN: 0065-7727

PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; Meeting Abstract
LANGUAGE: English

AB Recent efforts of our lab. have centered about the synthesis of polycationic org. salts and the investigation of their chem./phys. characteristics. In the current report we are concerned with the generation of ionic liqs. from these (solid) polycationic salts and the investigation of their characteristics with regard to elec. conduction, and their capability to serve as media for the differential solubilization of solutes and the performance of chem. reactions. Syntheses of the polyammonium ionic liqs. has been accomplished by metathesis reaction of the initial halide salts with hexafluorophosphoric acid to generate the species (liq.) as the hexafluorophosphate salts. Particular emphasis has been given to the cyclic polycationic species, including paracyclophane and, metacyclophanes contg. either two or four ammonium ion sites within the major ring, and cyclodextrin derivs. contg. two quaternary ammonium sites for each amylose unit of the parent mol. Cond. characteristics of the pure non-aq. ionic liqs. (NAILs) have been measured using a std. cond. bridge, and variation of the cond. with temp. has been noted.

L3 ANSWER 3 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:712179 CAPLUS
DOCUMENT NUMBER: 134:116251
TITLE: Ionic liquids as new-generation reactive solvents
AUTHOR(S): Nowicki, Janusz
CORPORATE SOURCE: Inst. Ciezkiej Syntezy Org., Kedzierzyn-Kozle, Pol.
SOURCE: Chemik (2000), 53(8), 223-226
CODEN: CHGLAY; ISSN: 0009-2886
PUBLISHER: Zaklad Wydawniczy CHEMPRESS
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Polish

AB A review with 38 refs. on room-temp. ionic liqs. as new-generation ("neoteric") org.-inorg. solvents is given. The current state of research and development of their utilization in org. synthesis is presented.

L3 ANSWER 4 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:645656 CAPLUS
DOCUMENT NUMBER: 133:237853
TITLE: Olefin metathesis in the presence of ionic liquids and transition metal carbene catalysts.
INVENTOR(S): Gurtler, Christoph; Jautelat, Manfred
PATENT ASSIGNEE(S): Bayer A.-G., Germany
SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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09/514,023

EP 1035093	A2	20000913	EP 2000-103339	20000221
EP 1035093	A3	20010124	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO	
DE 19909600	A1	20000907	DE 1999-19909600	19990305
DE 19927912	A1	20001221	DE 1999-19927912	19990618
PRIORITY APPLN. INFO.:		DE 1999-19909600 A 19990305 DE 1999-19927912 A 19990618		

OTHER SOURCE(S): CASREACT 133:237853; MARPAT 133:237853

AB Cyclic and/or polymeric materials were prep'd. by metathesis of starting materials contg. .gtoreq.2 functional groups in the form of (substituted) alkenes or alkynes in the presence of ionic liqs. and .gtoreq.1 homogeneous or heterogeneous catalyst. The catalyst may be a transition metal carbene or transition metal compd. convertible thereto, or a transition metal salt in combination with an alkylating agent. Thus, MeO₂CN(CH₂CH:CH₂)₂, tricyclohexylphosphinebenzylidenechlororuthenium(IV)-2-[(2,6-diisopropylphenyl)imino]methyl-4-nitrophenolate were stirred in a hexane-covered mixt. of 1-methyl-3-ethylimidazolium chloride and AlCl₃ to give 30% N-methoxycarbonyl-2,5-dihydropyrrole.

L3 ANSWER 5 OF 16 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:623574 CAPLUS

DOCUMENT NUMBER: 133:207610

TITLE: Preparation of tetrahydroanilines and related compounds via olefin metathesis.

INVENTOR(S): Guertler, Christoph; Jautelat, Manfred

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

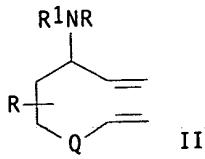
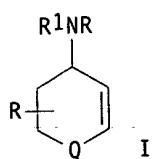
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19909600	A1	20000907	DE 1999-19909600	19990305
JP 2000256218	A2	20000919	JP 2000-41175	20000218
EP 1035093	A2	20000913	EP 2000-103339	20000221
EP 1035093	A3	20010124	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO	
PRIORITY APPLN. INFO.:		DE 1999-19909600 A 19990305 DE 1999-19927912 A 19990618		

OTHER SOURCE(S): CASREACT 133:207610; MARPAT 133:207610

GI



09/514,023

AB Title compds. [I; R = H, (anellated) aryl, alkyl, cyano, halo, CO₂R₂; R₁ = COR, SO₂PHR, CONRR₂, Me₃C, PR₃, P(R₂)₃; R₂ = alkyl, Ph; Q = (CH₂)_n; n= 1-4], were prep'd. by metathesis of olefins (II; variables as above) in the presence of noble metal catalysts and ionic liqs. Thus, 3-methoxycarbonylamino-1,7-octadiene and bis(tricyclohexylphosphine)benzylideneruthenium(IV) dichloride were heated in benzene for 2 h at 50.degree. to give 99% N-methoxycarbonyl-1,2,3,4-tetrahydroaniline.

L3 ANSWER 6 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:559914 CAPLUS
DOCUMENT NUMBER: 133:281895
TITLE: Ionic Phosphine Ligands with Cobaltocenium Backbone:
Novel Ligands for the Highly Selective, Biphasic,
Rhodium-Catalyzed Hydroformylation of 1-Octene in
Ionic Liquids
AUTHOR(S): Brasse, Claudia C.; Englert, Ulli; Salzer, Albrecht;
Waffenschmidt, Horst; Wasserscheid, Peter
CORPORATE SOURCE: Institut fuer Anorganische Chemie, RWTH Aachen,
Aachen, D 52056, Germany
SOURCE: Organometallics (2000), 19(19), 3818-3823
CODEN: ORGND7; ISSN: 0276-7333
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:281895
AB The use of electron-poor phosphine-substituted cobaltocenium salts as ligands for the biphasic hydroformylation in ionic liqs was studied. Using improved oxidn. methods, 1,1'-bis(diphenylphosphino)cobaltocenium nitrate (1), 1,1'-bis(diphenylphosphino)cobaltocenium hexafluorophosphate, and 1,1'-bis[1-methyl(1-diphenylphosphino)ethyl]cobaltocenium hexafluorophosphate were synthesized. 1,1'-Bis(diphenylphosphino)cobaltocenium hexafluorophosphate in particular proved to be a very suitable ligand for the biphasic hydroformylation of 1-octene in 1-butyl-3-methylimidazolium hexafluorophosphate (BMIM PF₆), enabling high catalyst activity, high selectivity to the n-product, and no detectable catalyst leaching. In contrast to aq. biphasic systems, the ionic liq. BMIM PF₆ provides for the Rh catalyst a low-coordinating medium with limited but sufficient solv. for 1-octene to allow high reaction rates. The crystal and mol. structures of 1 were detd. by x-ray crystallog.
REFERENCE COUNT: 29
REFERENCE(S):
(1) Bader, R; Chimia 1996, V50, P99 CAPLUS
(2) Bosch, B; Inorg Chim Acta 1998, V270, P446 CAPLUS
(3) Casey, C; J Am Chem Soc 1992, V114, P5535 CAPLUS
(4) Casey, C; J Am Chem Soc 1997, V119, P11817 CAPLUS
(5) Chauvin, Y; EP 0776880 A1 1996 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:241040 CAPLUS
DOCUMENT NUMBER: 132:256580
TITLE: Ionic salts
INVENTOR(S): Keim, Willi; Wasserscheid, Peter; Ziegert, Susanne
PATENT ASSIGNEE(S): BP Chemicals Limited, UK; Akzo Nobel NV; Elementis UK Limited

09/514,023

SOURCE: PCT Int. Appl.. 15 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000020115	A1	20000413	WO 1999-GB3279	19991004
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9961115	A1	20000426	AU 1999-61115	19991004
PRIORITY APPLN. INFO.: GB 1998-21628 A 19981006 WO 1999-GB3279 W 19991004				

OTHER SOURCE(S): MARPAT 132:256580

AB An ionic salt comprising at least one organo cation and at least one anion characterized in that the anion is of the formula [BX₃Y]⁻, wherein X is a halogen and Y is selected from: (a) a halogen other than X, (b) an OR group wherein R is a C₁-C₃₀ hydrocarbyl group, (c) an -O(O)CL group in which L is hydrogen or a hydrocarbyl group and (d) an -O(O)CZ group where Z is a carboxylic, hydroxycarboxylic or a hydrocarbylene carboxylic group. The ionic salts may be used in combination with certain metal salts or complexes as catalysts for reactions such as hydroformylation, olefin polymn. and hydrogenation.

REFERENCE COUNT: 5

REFERENCE(S):
(1) Bp Chem Int Ltd; WO 9618459 A 1996 CAPLUS
(2) Inst Francais Du Petrol; FR 2626572 A 1989 CAPLUS
(3) Inst Francais Du Petrol; EP 0748653 A 1996 CAPLUS
(4) Inst Francais Du Petrol; FR 2757850 A 1998 CAPLUS
(5) Olivier, H; PROC ELECTROCHEM SOC 1996, P1060
CAPLUS

L3 ANSWER 8 OF 16 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1999:797564 CAPLUS

DOCUMENT NUMBER: 132:280797

TITLE: Phosphine derivatives in catalysis

AUTHOR(S): Bradaric-Baus, C. J.; Chernishenko, M. J.; Robertson, A. J.

CORPORATE SOURCE: Cytec Canada Inc., Niagara Falls, ON, L2E 6T4, Can.

SOURCE: Chim. Oggi (1999), 17(10), 65-69

CODEN: CHOGDS; ISSN: 0392-839X

PUBLISHER: TeknoScienze

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review with 44 refs. Today, there are many mono and bidentate alkylphosphine ligands available which complement existing arylphosphines and which support important industrial processes such as hydroformylation, hydrogenation, and olefin metathesis. One or more of the alkyl groups can also be functionalized to render the ligands water sol. Derived from tertiary alkylphosphines are families of quaternary

phosphonium salts. The major application of phosphonium salts is in the area of phase transfer catalysis. While on a unit basis, phosphonium salts may be more costly than the corresponding ammonium salts, large vol. prodn. as well as their inherent thermal and chem. resistance to Hoffman elimination make phosphonium salts very competitive and, in many cases, more economical to use. A special class of phosphonium salts is the low melting or liq. salts, which have potential as "ionic liqs.". Again, because of good thermal and chem. stability, liq. phosphonium salts are ideally suited for this application. Addnl., phosphonium salts can be readily tailored to suit a process by varying the alkyl groups.

REFERENCE COUNT: 52

REFERENCE(S):

- (4) Boon, J; J Org Chem 1986, V51, P480 CAPLUS
- (5) Brunelle, D; US 4410422 1983 CAPLUS
- (6) Brunelle, D; J Org Chem 1984, V49, P1309 CAPLUS
- (7) Chauvin, Y; Chem Commun 1990, P1715 CAPLUS
- (8) Chauvin, Y; Ind Eng Chem Res 1995, V34, P1149 CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1999:418575 CAPLUS

DOCUMENT NUMBER: 131:250692

TITLE: The phase behaviour of 1-alkyl-3-methylimidazolium tetrafluoroborates; ionic liquids and ionic liquid crystals

AUTHOR(S): Holbrey, John D.; Seddon, Kenneth R.

CORPORATE SOURCE: The QUESTOR Centre, The Queen's University of Belfast, Belfast, BT9 5AG, UK

SOURCE: J. Chem. Soc., Dalton Trans. (1999), (13), 2133-2140
CODEN: JCDTBI; ISSN: 0300-9246

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Air- and H₂O-stable 1-alkyl-3-methylimidazolium tetrafluoroborate salts [C_n-mim] [BF₄] (n = 0-18) were prep'd. by metathesis from the corresponding chloride or bromide salts. The salts were characterized by ¹H NMR and IR spectroscopy, microanal., polarizing optical microscopy and DSC. Those with short alkyl chains (n = 2-11) are isotropic ionic liqs. at room temp. and exhibit a wide liq. range, whereas the longer chain analogs are low melting mesomorphic cryst. solids which display an enantiotropic smectic A mesophase. The thermal range of the mesophase increases with increasing chain length and in the case of the longest chain salt prep'd., [C₁₈-mim][BF₄], the mesophase range is .apprx.150.degree..

REFERENCE COUNT: 37

REFERENCE(S):

- (2) Bonhote, P; Inorg Chem 1996, V35, P1168 CAPLUS
- (3) Bonhote, P; Inorg Chem 1996, V35, P1168 CAPLUS
- (4) Bowlas, C; Chem Commun 1996, P1625 CAPLUS
- (5) Busico, V; J Phys Chem 1983, V87, P1631 CAPLUS
- (7) Chauvin, Y; Angew Chem, Int Ed Engl 1995, V34, P2698 CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1999:35834 CAPLUS

DOCUMENT NUMBER: 130:183391

TITLE: Ionic liquid-polymer gel

09/514,023

electrolytes from hydrophilic and hydrophobic
ionic liquids

AUTHOR(S): Fuller, Joan; Breda, Amy C.; Carlin, Richard T.
CORPORATE SOURCE: SAF/AQRT, 1060 Air Force Pentagon, Washington, DC,
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SOURCE: J. Electroanal. Chem. (1998), 459(1), 29-34
CODEN: JECHE; ISSN: 0368-1874
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Ionic liq.-polymer gels were prep'd. by incorporating hydrophilic EMIBF₄ and EMI(triflate) (EMI + = 1-ethyl-3-methylimidazolium) and hydrophobic BMIPF₆ (BMI- = 1-(1-butyl)-3-methylimidazolium) room-temp. ionic liqs. into a poly(vinylidene fluoride)-hexafluoropropylene copolymer (PVdF(HFP)) matrix. Gel electrolytes prep'd. with ionic liq.:PVdF(HFP) mass ratios of 2:1 exhibited ionic conductivities of > 10⁻³ S cm⁻¹ at room temp. and > 10⁻² S cm⁻¹ at 100.degree.C. The BMIPF₆-PVdF(HFP) gel was incorporated into electrochem. cells, employing graphite intercalation electrodes for both the anode and cathode, to construct single and bipolar cells displaying open-circuit voltages of 3.77 and 7.86 V, resp. New inexpensive preparative routes for the hydrophilic ionic liqs. were developed that utilize the metathesis reaction of EMICI with the appropriate ammonium salt in acetone or acetonitrile to produce high purity products.

REFERENCE COUNT: 22
REFERENCE(S): (4) Carlin, R; US 5552238 1996 CAPLUS
(8) Carlin, R; Molten Salt X 1996, V96-7, P362 CAPLUS
(9) Chauvin, Y; Angew Chem Int Ed 1995, V34, P2698 CAPLUS
(10) Chauvin, Y; CHEMTECH 1995, V25(9), P26 CAPLUS
(12) Fuller, J; J Electrochim Soc 1997, V144, P3881 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:757839 CAPLUS
DOCUMENT NUMBER: 130:95508
TITLE: Novel organic ionic liquids (OILs)
incorporating cations derived from the antifungal drug
miconazole

AUTHOR(S): Davis, James H., Jr.; Forrester, Kerri J.; Merrigan, Travis
CORPORATE SOURCE: Department of Chemistry, University of South Alabama,
Mobile, AL, 36608-0002, USA
SOURCE: Tetrahedron Lett. (1998), 39(49), 8955-8958
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The imidazole-ring contg. antifungal drug miconazole reacts with a variety of alkyl iodides to form imidazolium cations. After anion metathesis with NaPF₆, org. ionic liqs. (OILs) are obtained. These new ionic liqs. are believed to be the first to be derived from a bioactive mol. One of the new OILs also exhibits lyotropic liq. cryst. behavior while inducing the gelation of benzene.

REFERENCE COUNT: 9
REFERENCE(S): (1) Bonhote, P; Inorg Chem 1996, V35, P1168 CAPLUS

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(4) Chauvin, Y; Ind Eng Chem Res 1995, V34, P2698 CAPLUS
(6) Elaiwi, A; J Chem Soc Dalton Trans 1995, P3467 CAPLUS
(8) Hussey, C; Pure Appl Chem 1988, V60, P1763 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:63222 CAPLUS
DOCUMENT NUMBER: 126:95293
TITLE: Two-phase catalysis in nonaqueous ionic liquids
AUTHOR(S): Chauvin, Yves
CORPORATE SOURCE: Fr.
SOURCE: Actual. Chim. (1996), (7), 44-46
PUBLISHER: CODEN: ACCHDG; ISSN: 0151-9093
DOCUMENT TYPE: Journal; General Review
LANGUAGE: French
AB A review with 10 refs.; room temp. molten salts contg. quaternary ammonium cations (e.g. N,N'-dialkylimidazolium) and anions of controlled coordination ability, are effective solvents for organometallic-catalyzed hydrogenation, hydroformylation, dimerization and metathesis reactions.

L3 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1996:683340 CAPLUS
DOCUMENT NUMBER: 126:46733
TITLE: Nonaqueous room-temperature ionic liquids: a new class of solvents for catalytic organic reactions
AUTHOR(S): Olivier, Helene; Chauvin, Yves
CORPORATE SOURCE: Institut Francais du Petrole, Rueil-Malmaison, 92506, Fr.
SOURCE: Chem. Ind. (Dekker) (1996), 68(Catalysis of Organic Reactions), 249-263
PUBLISHER: CODEN: CHEIDI; ISSN: 0737-8025
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Room-temp. org.-inorg. ionic liqs. of the BMI+A- type (BMI+=1-butyl-3-methylimidazolium, A-=Al₂C₁₇-, AlC₁₄-, BF₄-, PF₆- and SbF₆-) can be used as a new class of solvents for two-phase catalytic org. reactions. Their chem. and phys. properties can be varied with the nature of the A- anions and they can be fitted to catalyst precursors and reactions involved. These media can stabilize various transition metal complexes and are poorly sol. with hydrocarbons and aldehydes. Thus, the sepn. of the reaction products from the catalyst can be easily achieved by simple decantation. We have deliberately used these media for catalytic reactions of industrial petroleum interest such as dimerization, alkylation, hydrogenation, metathesis, hydroformylation of olefins and cyclodimerization of butadiene. This extends the field of two-phase catalysis to substrates, complexes and ligands which are poorly sol. or unstable in water.

L3 ANSWER 14 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:805520 CAPLUS

09/514,023

DOCUMENT NUMBER: 124:7940
TITLE: Nonaqueous ionic liquids as reaction solvents
AUTHOR(S): Chauvin, Yves; Olivier-Bourbigou, Helene
CORPORATE SOURCE: Institut Francais du Petrole, Rueil-Malmaison, 92506, Fr.
SOURCE: CHEMTECH (1995), 25(9), 26-30
DOCUMENT TYPE: CODEN: CHTEDD; ISSN: 0009-2703
LANGUAGE: Journal; General Review
English
AB Mixts. of quaternary ammonium salts and organoaluminum compds. are very effective solvents for metal catalyzed olefin dimerization and metathesis. Ionic liqs. show promise as solvents for two-phase catalysis; 26 refs.

L3 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:531126 CAPLUS
DOCUMENT NUMBER: 117:131126
TITLE: Air and water stable 1-ethyl-3-methylimidazolium based ionic liquids
AUTHOR(S): Wilkes, John S.; Zaworotko, Michael J.
CORPORATE SOURCE: Frank J. Seiler Res. Lab., United States Air Force Acad., CO, 80840, USA
SOURCE: J. Chem. Soc., Chem. Commun. (1992), (13), 965-7
DOCUMENT TYPE: CODEN: JCCCAT; ISSN: 0022-4936
LANGUAGE: Journal
English
AB A series of novel air and water stable low melting salts based upon the 1-ethyl-3-methylimidazolium cation (EtMeim^+) were prep'd. and characterized; two salts, $[\text{EtMeim}] \text{BF}_4^-$ and $[\text{EtMeim}] \text{OAc}$, are liqs. under ambient conditions.

L3 ANSWER 16 OF 16 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1989:184854 CAPLUS
DOCUMENT NUMBER: 110:184854
TITLE: Some uranium halide complexes
AUTHOR(S): Mohammed, Thamer Jassim
CORPORATE SOURCE: Univ. Sussex, Brighton/Sussex, UK
SOURCE: (1987) 318 pp. Avail.: Univ. Microfilms Int., Order No. BRDX82048
From: Diss. Abstr. Int. B 1988, 49(5), 1693
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Unavailable

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